

*Comm. #469-66*

***The Ohio Valley Coal  
Company***

***D-0360-18***

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT  
UNDERGROUND COAL MINING AND RECLAMATION  
PERMIT APPLICATION

Applicant's Name THE OHIO VALLEY COAL COMPANY

A. Type of Operation (check appropriate space(s)):

☒ Shaft, ☒ Slope, \_\_\_ Drift,  
☒ Room and Pillar, \_\_\_ Pillar Extraction,  
☒ Longwall, \_\_\_ Combined Surface and Underground

B. Type of Application (check appropriate space(s)):

(1) \_\_\_ New  
(2) \_\_\_ Initial Underground Workings to Existing Permit  
(3) ☒ Additional Underground Workings

C. Address the following if applicable:

(1) Permit Number D-0360  
(2) Date Issued 06-20-1984

D. Did a person other than an employee of the applicant prepare this application?  
Yes, \_\_\_ No ☒ If "yes," provide:

Preparer's Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Telephone \_\_\_\_-\_\_\_\_-\_\_\_\_\_

E. I, the undersigned, a responsible official of the applicant, do hereby verify the information in the complete permit application as true and correct to the best of my information and belief.

Printed Name DAVID L BARTSCH; Title ENVIRONMENTAL COORDINATOR

Signature David L. Bartsch; Date 10-26-07

Sworn before me and subscribed in my presence this 26<sup>th</sup> day of October, 2007.

Penny J. Elliott  
Notary Public



PENNY J. ELLIOTT, Notary Public  
For The State of Ohio  
Commission Expires 11/11, 2008  
Recorded in Monroe County

- F. For Revision Review Only. This item is to be completed after revisions, if any, have been made to the permit application.

I, the undersigned, a responsible official of the applicant, do hereby verify and acknowledge the revisions made during the permit review process as true and correct to the best of my information and belief.

Printed Name DAVID L BARTSCH; Title ENVIRONMENTAL COORDINATOR

Signature \_\_\_\_\_; Date \_\_\_\_\_

Sworn before me and subscribed in my presence this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Notary Public

PART 1, LEGAL, FINANCIAL, COMPLIANCE, AND RELATED INFORMATION

A. IDENTIFICATION OF INTERESTS

- (1) Applicant's Name THE OHIO VALLEY COAL COMPANY

Address 56854 PLEASANT RIDGE ROAD

City ALLEDONIA State OH Zip 43902

Telephone 740 - 926 - 1351

Employer Identification No. (EIN) 34-1041310, or

Social Security No. (SSN), \_\_\_\_\_

- (2) Indicate business structure of applicant and additional information:

\_\_\_ Single proprietorship,

\_\_\_ Partnership (registration no. and date obtained)

\_\_\_ X Corporation (charter no. and date incorporated)  
5/28/1988 / 384971

\_\_\_ Association,

\_\_\_ Other, specify \_\_\_\_\_

- (3) If the applicant is a single proprietorship, provide the following:

Owner's Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone \_\_\_\_-\_\_\_\_-\_\_\_\_

EIN \_\_\_\_\_, or SSN \_\_\_\_\_

Beginning date of ownership \_\_\_\_\_

- (4) If the applicant is a business entity other than a single proprietorship, provide the following for the applicant's statutory agent and submit Owners & Controllers.

Agent's Name **A&H STATUTORY**  
Address **1100 HUNTINGTON BUILDING**  
City **CLEVELAND** State **OH** Zip **44115**

Telephone **216 - 696 - 1100**

EIN **34-104130**, or SSN (optional) \_\_\_\_\_  
**SEE OWNERS AND CONTROLLERS**

- (5) Is the operator of the mine to be a person different from the applicant? ☐ Yes, ☒ No. If "yes," provide the operator's name and submit Operator Ownership & Control. (Note: if more than one operator, indicate operator's name and submit a separate attachment for each.)

Operator's Name \_\_\_\_\_

- (6) Provide the following for the person who will pay the abandoned mine land reclamation fee for the applicant.

Name **ROBERT E MURRAY**  
Address **29525 CHAGRIN BLVD, SUITE 300**  
City **PEPPER PIKE** State **OH** Zip **44122**

Telephone **216 - 765 - 1240**

EIN **34-1041310**, or SSN (optional) \_\_\_\_\_

- (7) Provide the following for all persons having the authority or ability to commit the financial, real property assets, or working resources of the applicant who are not otherwise identified as officers, directors, or owners of the applicant. If none, check box: [ ☒ ]. If any person listed is a business entity and not an individual, also complete Owners & Controllers for that person.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone \_\_\_\_\_

EIN \_\_\_\_\_, or SSN \_\_\_\_\_

Date O & C relationship began/ended (if applicable)

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Submit and identify additional pages necessary to complete response.



OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name The Ohio Valley Coal Company

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, and stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. Persons holding or who have held multiple positions must be listed separately for each position. If any owner or controller listed is a business entity and not an individual, also complete an Owners and Controllers for that business entity.

Name of business entity The Ohio Valley Coal Company

Name Dietz, Ronnie D.

Street address 56854 Pleasant Ridge Road

City Alledonia State OH Zip 43902

EIN           , or SSN           

Title of position within entity Treasurer, Assistant Secretary, and Corporate Comptroller

Date position assumed/ended (if applicable) 11/4/2005/          

Percent of ownership 0 Date of ownership           

Name Michael B. Gardner

Street address 56854 Pleasant Ridge Road

City Alledonia State OH Zip 43902

EIN           , or SSN           

Title of position within entity Secretary

Date position assumed/ended (if applicable) 3/1/2005/5/1/2007

Percent of ownership 0 Date of ownership           

Name Roberta K. Heil

Street address 56854 Pleasant Ridge Road

City Alledonia State OH Zip 43902

EIN           , or SSN           

Title of position within entity Assistant Secretary

Date position assumed/ended (if applicable) 11/1/1999/          

Percent of ownership 0 Date of ownership           

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **The Ohio Valley Coal Company**

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Name of business entity **The Ohio Valley Coal Company**

Name **Bonnie M. Froehlich**

Street address **56854 Pleasant Ridge Road**

City **Alledonia** State **OH** Zip **43902**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Assistant Secretary and Assistant Treasurer**

Date position assumed/ended (if applicable) **6/25/2001/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Name **Ohio Valley Resources, Inc.**

Street address **Suite 300 29325 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

EIN **34-1586391**, or SSN [REDACTED]

Title of position within entity **Shareholder**

Date position assumed/ended (if applicable) **5-28-1988/** [REDACTED]

Percent of ownership **100** Date of ownership **5-28-1988**

Name **Robert E. Murray**

Street address **56854 Pleasant Ridge Road**

City **Alledonia** State **OH** Zip **43902**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Director**

Date position assumed/ended (if applicable) **5-28-1988/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name The Ohio Valley Coal Company

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Name of business entity The Ohio Valley Coal Company

Name Paul B. Piccolini

Street address 56854 Pleasant Ridge Road

City Alliedonia State OH Zip 43902

EIN           , or SSN           

Title of position within entity Vice-President

Date position assumed/ended (if applicable) 5/1/2007/

Percent of ownership 0 Date of ownership           

Name           

Street address           

City            State            Zip           

EIN           , or SSN           

Title of position within entity           

Date position assumed/ended (if applicable)           /

Percent of ownership            Date of ownership           

Name           

Street address           

City            State            Zip           

EIN           , or SSN           

Title of position within entity           

Date position assumed/ended (if applicable)           /

Percent of ownership            Date of ownership           

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **The Ohio Valley Coal Company**

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, and stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. Persons holding or who have held multiple positions must be listed separately for each position. If any owner or controller listed is a business entity and not an individual, also complete an Owners and Controllers for that business entity.

Name of business entity **Ohio Valley Resources, Inc.**

Name **Murray Energy Corporation**

Street address **29325 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Shareholder**

Date position assumed/ended (if applicable) **5-28-1988/** [REDACTED]

Percent of ownership **100** Date of ownership **5-28-1988**

Name **Robert E. Murray**

Street address **29325 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Director**

Date position assumed/ended (if applicable) **5-28-1988/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Name **Ronnie D. Dietz**

Street address **59235 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Ass't Sec/Comptroller/Treasurer**

Date position assumed/ended (if applicable) **5/28/1998/** [REDACTED]

Percent of ownership [REDACTED] Date of ownership [REDACTED]

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name The Ohio Valley Coal Company

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, and stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. Persons holding or who have held multiple positions must be listed separately for each position. If any owner or controller listed is a business entity and not an individual, also complete an Owners and Controllers for that business entity.

Name of business entity Ohio Valley Resources

Name Paul B. Piccolini

Street address 29325 Chagrin Blvd

City Pepper Pike State OH Zip 44122

EIN           , or SSN           

Title of position within entity President

Date position assumed/ended (if applicable) 4-28-2006/          

Percent of ownership 0 Date of ownership           

Name Ronnie D. Dietz

Street address 29325 Chagrin Blvd

City Pepper Pike State OH Zip 44122

EIN           , or SSN           

Title of position within entity Treasurer, Assistant Secretary, Corporate Comptroller

Date position assumed/ended (if applicable) 3-1-2005/          

Percent of ownership 0 Date of ownership           

Name Michael B. Gardner

Street address 29325 Chagrin Blvd

City Pepper Pike State OH Zip 44122

EIN           , or SSN           

Title of position within entity Secretary

Date position assumed/ended (if applicable) 3-1-2005/5/1/2007

Percent of ownership 0 Date of ownership           

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name The Ohio Valley Coal Company

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, and stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. Persons holding or who have held multiple positions must be listed separately for each position. If any owner or controller listed is a business entity and not an individual, also complete an Owners and Controllers for that business entity.

Name of business entity Murray Energy Corporation

Name Robert E. Murray

Street address 29325 Chagrin Blvd

City Pepper Pike State OH Zip 44122

EIN           , or SSN           

Title of position within entity Chairman, President and CEO/Director

Date position assumed/ended (if applicable) 2-23-2001/          

Percent of ownership 0 Date of ownership           

Name John R. Forrelli

Street address 29325 Chagrin Blvd

City Pepper Pike State OH Zip 44122

EIN           , or SSN           

Title of position within entity Vice President

Date position assumed/ended (if applicable) 2-18-2003/6/10/2005

Percent of ownership 0 Date of ownership           

Name Robert D. Moore

Street address 29325 Chagrin Blvd

City Pepper Pike State OH Zip 44122

EIN           , or SSN           

Title of position within entity Vice President/CFO/Director

Date position assumed/ended (if applicable) 2-18-2003/6/10/2005

Percent of ownership 0 Date of ownership           

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **The Ohio Valley Coal Company**

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Name of business entity **Murray Energy Corporation**

Name **P. Bruce Hill**

Street address **29325 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **Vice-President Human Resources**

Date position assumed/ended (if applicable) **2-18-2003/6/10/05**

Percent of ownership **0** Date of ownership

Name **Michael D. Lolocono**

Street address **29325 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **Treasurer**

Date position assumed/ended (if applicable) **1/23/2001, 12-20-2005/**

Percent of ownership **0** Date of ownership

Name **Michael O. McKown**

Street address **29325 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **Secretary**

Date position assumed/ended (if applicable) **2-23-2001/**

Percent of ownership  Date of ownership

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name The Ohio Valley Coal Company

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, and stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. Persons holding or who have held multiple positions must be listed separately for each position. If any owner or controller listed is a business entity and not an individual, also complete an Owners and Controllers for that business entity.

Name of business entity Murray Energy Corporation

Name Robert E. Murray

Street address 29325 Chagrin Blvd

City Pepper Pike State OH Zip 44122

EIN           , or SSN           

Title of position within entity Shareholder, Director

Date position assumed/ended (if applicable) 2-23-2001/10/21/2003

Percent of ownership 100 Date of ownership 2-23-2001

Name Henry W. Fayne

Street address 29325 Chagrin Blvd

City Pepper Pike State OH Zip 44122

EIN           , or SSN           

Title of position within entity Director

Date position assumed/ended (if applicable) 1-28-2005/          

Percent of ownership 0 Date of ownership           

Name Richard L. Lawson

Street address 29325 Chagrin Blvd

City Pepper Pike State OH Zip 44122

EIN           , or SSN           

Title of position within entity Director

Date position assumed/ended (if applicable) 1-28-2005/          

Percent of ownership 0 Date of ownership           

Submit and identify additional pages necessary to complete response.

Part 1: Section A



OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name The Ohio Valley Coal Company

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, and stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. Persons holding or who have held multiple positions must be listed separately for each position. If any owner or controller listed is a business entity and not an individual, also complete an Owners and Controllers for that business entity.

Name of business entity Murray Energy Corporation

Name Henry W. Fayne

Street address 29325 Chagrin Blvd

City Pepper Pike State OH Zip 44122

EIN           , or SSN           

Title of position within entity Director

Date position assumed/ended (if applicable) 10-23-2003/          

Percent of ownership 0 Date of ownership           

Name Murray Energy Holdings Company

Street address 29325 Chagrin Blvd

City Pepper Pike State OH Zip 44122

EIN 20-0100463, or SSN           

Title of position within entity Shareholder

Date position assumed/ended (if applicable) 6/30/2003/          

Percent of ownership 100 Date of ownership 6/30/2003

Name Richard L. Lawson

Street address 29325 Chagrin Blvd

City Pepper Pike State OH Zip 44122

EIN           , or SSN           

Title of position within entity Director

Date position assumed/ended (if applicable) 6/30/2003/          

Percent of ownership            Date of ownership           

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **The Ohio Valley Coal Company**

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, and stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. Persons holding or who have held multiple positions must be listed separately for each position. If any owner or controller listed is a business entity and not an individual, also complete an Owners and Controllers for that business entity.

Name of business entity **Murray Energy Corporation**

Name **Andrew D. Weissman**

Street address **29325 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Director**

Date position assumed/ended (if applicable) **10-23-2003/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Name [REDACTED]

Street address [REDACTED]

City [REDACTED] State [REDACTED] Zip [REDACTED]

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity [REDACTED]

Date position assumed/ended (if applicable) [REDACTED] / [REDACTED]

Percent of ownership [REDACTED] Date of ownership [REDACTED]

Name [REDACTED]

Street address [REDACTED]

City [REDACTED] State [REDACTED] Zip [REDACTED]

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity [REDACTED]

Date position assumed/ended (if applicable) [REDACTED] / [REDACTED]

Percent of ownership [REDACTED] Date of ownership [REDACTED]

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **The Ohio Valley Coal Company**

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, and stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. Persons holding or who have held multiple positions must be listed separately for each position. If any owner or controller listed is a business entity and not an individual, also complete an Owners and Controllers for that business entity.

Name of business entity **The American Coal Co**

Name **P. Bruce Hill**

Street address **PO Box 727**

City **Harrisburg** State **IL** Zip **62946**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Vice-President, Human Resources**

Date position assumed/ended (if applicable) **10/1/1998/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Name **Robert D. Moore**

Street address **PO Box 727**

City **Harrisburg** State **IL** Zip **62946**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Treasurer**

Date position assumed/ended (if applicable) **10/1/1998/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Name **Jeffrey L. Cash**

Street address **PO Box 727**

City **Harrisburg** State **IL** Zip **62946**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Assistant Treasurer and Assistant Secretary**

Date position assumed/ended (if applicable) **11/1/1999 and 6/1/2001/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name The Ohio Valley Coal Company

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, and stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. Persons holding or who have held multiple positions must be listed separately for each position. If any owner or controller listed is a business entity and not an individual, also complete an Owners and Controllers for that business entity.

Name of business entity The American Coal Company

Name Robert E. Murray

Street address PO Box 727

City Harrisburg State IL Zip 62946

EIN           , or SSN           

Title of position within entity Acting President

Date position assumed/ended (if applicable) 11/2/2002/          

Percent of ownership 0 Date of ownership           

Name John R. Forrelli

Street address PO Box 727

City Harrisburg State IL Zip 62946

EIN           , or SSN           

Title of position within entity Vice-President

Date position assumed/ended (if applicable) 9/7/2004/          

Percent of ownership 0 Date of ownership           

Name Michael O. McKown

Street address PO Box 727

City Harrisburg State IL Zip 62946

EIN           , or SSN           

Title of position within entity Vice-President, General Counsel, Secretary

Date position assumed/ended (if applicable) 3/15/1999 3/1/2005/          

Percent of ownership 0 Date of ownership           

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name The Ohio Valley Coal Company

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, and stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. Persons holding or who have held multiple positions must be listed separately for each position. If any owner or controller listed is a business entity and not an individual, also complete an Owners and Controllers for that business entity.

Name of business entity The American Coal Co

Name AmCoal Holdings, Inc

Street address PO Box 727

City Harrisburg State IL Zip 62946

EIN           , or SSN           

Title of position within entity Shareholder

Date position assumed/ended (if applicable) 6/2/1998/

Percent of ownership 100 Date of ownership           

Name BJ Cornelius

Street address PO Box 727

City Harrisburg State IL Zip 62946

EIN           , or SSN           

Title of position within entity Sr. VP

Date position assumed/ended (if applicable) 2/14/05/

Percent of ownership 0 Date of ownership           

Name           

Street address           

City            State            Zip           

EIN           , or SSN           

Title of position within entity           

Date position assumed/ended (if applicable)           /

Percent of ownership            Date of ownership           

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **The Ohio Valley Coal Company**

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, and stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. Persons holding or who have held multiple positions must be listed separately for each position. If any owner or controller listed is a business entity and not an individual, also complete an Owners and Controllers for that business entity.

Name of business entity **Energy Resources Inc.**

Name **Stanley T. Plasecki**

Street address **PO Box 259**

City **Brockway** State **PA** Zip **15824**

EIN , or SSN

Title of position within entity **President, Director, CEO**

Date position assumed/ended (if applicable) **8/11/2004/**

Percent of ownership **0** Date of ownership

Name **Elmer A. Mottillo**

Street address **PO Box 259**

City **Brockway** State **PA** Zip **15824**

EIN , or SSN

Title of position within entity **Treasurer**

Date position assumed/ended (if applicable) **8/22/2003/**

Percent of ownership **0** Date of ownership

Name **Michael O. McKown**

Street address **PO Box 259**

City **Brockway** State **PA** Zip **15824**

EIN , or SSN

Title of position within entity **Secretary**

Date position assumed/ended (if applicable) **3/1/2005/**

Percent of ownership **0** Date of ownership

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **The Ohio Valley Coal Company**

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, and stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. Persons holding or who have held multiple positions must be listed separately for each position. If any owner or controller listed is a business entity and not an individual, also complete an Owners and Controllers for that business entity.

Name of business entity **Energy Resources, Inc.**

Name **Charles E. Shestak**

Street address **PO Box 259**

City **Brockway** State **PA** Zip **15824**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Assistant Secretary**

Date position assumed/ended (if applicable) **4/30/1993/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Name **Mill Creek Mining Company**

Street address **PO Box 259**

City **Brockway** State **PA** Zip **15824**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Shareholder**

Date position assumed/ended (if applicable) **8/11/2004/** [REDACTED]

Percent of ownership **100** Date of ownership **8/11/2004**

Name [REDACTED]

Street address [REDACTED]

City [REDACTED] State [REDACTED] Zip [REDACTED]

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity [REDACTED]

Date position assumed/ended (if applicable) [REDACTED]/[REDACTED]

Percent of ownership [REDACTED] Date of ownership [REDACTED]

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **The Ohio Valley Coal Company**

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, and stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. Persons holding or who have held multiple positions must be listed separately for each position. If any owner or controller listed is a business entity and not an individual, also complete an Owners and Controllers for that business entity.

Name of business entity **TDK Coal Sales, Inc.**

Name **Stanley T. Piasecki**

Street address **PO Box 269**

City **Brockway** State **PA** Zip **15824**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **President, Director, and CEO**

Date position assumed/ended (if applicable) **8/11/2004**/ [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Name **Energy Resources, Inc.**

Street address **PO Box 269**

City **Brockway** State **PA** Zip **15824**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Shareholder**

Date position assumed/ended (if applicable) **8/11/2004**/ [REDACTED]

Percent of ownership **100** Date of ownership **8/11/2004**

Name **Elmer A. Mottillo**

Street address **PO Box 269**

City **Brockway** State **PA** Zip **15824**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Treasurer**

Date position assumed/ended (if applicable) **8/22/2003**/ [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Submit and identify additional pages necessary to complete response.

Part 1: Section A



OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **The Ohio Valley Coal Company**

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Name of business entity **TDK Coal Sales, Inc.**

Name **Michael O. McKown**

Street address **PO Box 259**

City **Brockway** State **PA** Zip **15824**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Secretary**

Date position assumed/ended (if applicable) **3/1/2005/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Name **Charles E. Shestak**

Street address **PO Box 259**

City **Brockway** State **PA** Zip **15824**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Assistant Secretary**

Date position assumed/ended (if applicable) **2/1/1999/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Name [REDACTED]

Street address [REDACTED]

City [REDACTED] State [REDACTED] Zip [REDACTED]

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity [REDACTED]

Date position assumed/ended (if applicable) [REDACTED]/[REDACTED]

Percent of ownership [REDACTED] Date of ownership [REDACTED]

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name The Ohio Valley Coal Company

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Name of business entity UtahAmerican Energy, Inc.

Name P. BRUCE HILL

Street address 375 S. Carbon Ave. Suite 127

City Price State UT Zip 84501

EIN         , or SSN         

Title of position within entity PRESIDENT, CEO, DIRECTOR

Date position assumed/ended (if applicable) 12/16/06/        

Percent of ownership 0 Date of ownership         

Name Jay Marshall

Street address 375 S. Carbon Ave Suite 127

City Price State UT Zip 84501

EIN         , or SSN         

Title of position within entity Vice-President

Date position assumed/ended (if applicable) 5-1-2006/        

Percent of ownership 0 Date of ownership         

Name Robert D. Moore

Street address 375 S. Carbon Ave Suite 127

City Price State UT Zip 84501

EIN         , or SSN         

Title of position within entity TREASURER

Date position assumed/ended (if applicable) 5/1/06/        

Percent of ownership 0 Date of ownership         

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **The Ohio Valley Coal Company**

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Name of business entity **UtahAmerican Energy Inc.**

Name **MICHAEL O. MCKOWN**

Street address **375 S. Carbon Ave, Suite 127**

City **Price** State **UT** Zip **84501**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **SECRETARY**

Date position assumed/ended (if applicable) **8/18/06/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Name **ROBERT E. MURRAY**

Street address **375 S. Carbon Ave. Suite 127**

City **Price** State **UT** Zip **84501**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **DIRECTOR**

Date position assumed/ended (if applicable) **5/1/06/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Name **BJ Cornelius**

Street address **375 S. Carbon Ave. Suite 127**

City **Price** State **UT** Zip **84501**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Sr. VP Sales**

Date position assumed/ended (if applicable) **9/12/06/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name The Ohio Valley Coal Company

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Name of business entity UtahAmerican Energy, Inc.

Name Murray Energy Corporation

Street address 375 S. Carbon Ave. Suite 127

City Price State UT Zip 84501

EIN           , or SSN           

Title of position within entity Shareholder

Date position assumed/ended (if applicable) 5/3/2006/           

Percent of ownership 100 Date of ownership 5/3/2006

Name           

Street address           

City            State            Zip           

EIN           , or SSN           

Title of position within entity           

Date position assumed/ended (if applicable)            /           

Percent of ownership            Date of ownership           

Name           

Street address           

City            State            Zip           

EIN           , or SSN           

Title of position within entity           

Date position assumed/ended (if applicable)            /           

Percent of ownership            Date of ownership           

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **THE OHIO VALLEY COAL COMPANY**

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Name of business entity **OHIOAMERICAN ENERGY, INCORPORATED**

Name **D. MICHAEL JAMISON**

Street address **29325 CHAGRIN BLVD, SUITE 300**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN **[REDACTED]**, or SSN **[REDACTED]**

Title of position within entity **PRESIDENT**

Date position assumed/ended (if applicable) **5/2/2005/ [REDACTED]**

Percent of ownership **0** Date of ownership **[REDACTED]**

Name **MICHAEL O. MCKOWN**

Street address **29325 CHAGRIN BLVD, SUITE 300**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN **[REDACTED]**, or SSN **[REDACTED]**

Title of position within entity **SECRETARY**

Date position assumed/ended (if applicable) **5/2/2005/ [REDACTED]**

Percent of ownership **0** Date of ownership **[REDACTED]**

Name **ROBERT D. MOORE**

Street address **29325 CHAGRIN BLVD, SUITE 300**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN **[REDACTED]**, or SSN **[REDACTED]**

Title of position within entity **TREASURER**

Date position assumed/ended (if applicable) **5/2/2005/ [REDACTED]**

Percent of ownership **0** Date of ownership **[REDACTED]**

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **THE OHIO VALLEY COAL COMPANY**

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Name of business entity **OHIOAMERICAN ENERGY, INCORPORATED**

Name **ROBERT E. MURRAY**

Street address **29325 CHAGRIN BLVD, SUITE 300**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **DIRECTOR/SHAREHOLDER**

Date position assumed/ended (if applicable) **5/2/2005/**

Percent of ownership **100** Date of ownership

Name **Elmer A. Mottillo**

Street address **29325 Chagrin Blvd, Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **Asst. Treasurer**

Date position assumed/ended (if applicable) **5/2/05/**

Percent of ownership **0** Date of ownership

Name **Murray Energy Corporation**

Street address **29325 Chagrin Blvd, Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **Shareholder**

Date position assumed/ended (if applicable) **5/2/05/**

Percent of ownership **100** Date of ownership

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **The Ohio Valley Coal Company**

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Name of business entity **Murray Energy Holdings Company**

Name **Michael O. McKown**

Street address **29325 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Secretary/Director**

Date position assumed/ended (if applicable) **6/30/2003/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Name **Murray Trust**

Street address **29325 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Shareholder**

Date position assumed/ended (if applicable) **6/30/03/** [REDACTED]

Percent of ownership **20** Date of ownership **6/30/03**

Name **Michael D. Lolacano**

Street address **29325 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **Director**

Date position assumed/ended (if applicable) **6/30/2003/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **The Ohio Valley Coal Company**

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Name of business entity **Murray Energy Holdings Company**

Name **Robert E. Murray**

Street address **29325 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **Director/Shareholder/Chairman/President/CEO**

Date position assumed/ended (if applicable) **6/30/2003/**

Percent of ownership **20** Date of ownership

Name **Michael D. Loiacono**

Street address **29325 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **Treasurer**

Date position assumed/ended (if applicable) **6/10/2005/**

Percent of ownership **0** Date of ownership

Name **Robert D. Moore**

Street address **29325 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **CEO/President/Director**

Date position assumed/ended (if applicable) **6/10/2005/**

Percent of ownership  Date of ownership

Submit and identify additional pages necessary to complete response.

Part 1: Section A



OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **The Ohio Valley Coal Company**

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Name of business entity **Murray Energy Holdings Company**

Name **Ryan Michael Murray**

Street address **29325 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **Shareholder**

Date position assumed/ended (if applicable) **6/30/2003/**

Percent of ownership **20** Date of ownership

Name **Robert Edward Murray**

Street address **29325 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **Shareholder**

Date position assumed/ended (if applicable) **6/30/2003/**

Percent of ownership **20** Date of ownership

Name **Jonathan Robert Murray**

Street address **29325 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **Shareholder**

Date position assumed/ended (if applicable) **6/30/2003/**

Percent of ownership **20** Date of ownership

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **THE OHIO VALLEY COAL COMPANY**

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Name of business entity **ANDALEX RESOURCE MANAGEMENT, INC.**

Name **P. BRUCE HILL**

Street address **29325 CHAGRIN BLVD, SUITE 300**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **PRESIDENT, CEO, DIRECTOR**

Date position assumed/ended (if applicable) **12/16/06/**

Percent of ownership **0** Date of ownership

Name **ROBERT D. MOORE**

Street address **29325 CHAGRIN BLVD, SUITE 300**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **TREASURER**

Date position assumed/ended (if applicable) **8/18/06/**

Percent of ownership **0** Date of ownership

Name **MICHAEL O. MCKOWN**

Street address **29325 CHAGRIN BLVD, SUITE 300**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **SECRETARY**

Date position assumed/ended (if applicable) **8/18/06/**

Percent of ownership **0** Date of ownership

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **THE OHIO VALLEY GOAL COMPANY**

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Name of business entity **ANDALEX RESOURCE MANAGEMENT, INC.**

Name **DOUGLASS SMITH**

Street address **29325 CHAGRIN BLVD, SUITE 300**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **PRESIDENT**

Date position assumed/ended (if applicable) **8-18-06/12-16-06**

Percent of ownership **0** Date of ownership [REDACTED]

Name **ROBERT E. MURRAY**

Street address **29325 CHAGRIN BLVD**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **DIRECTOR**

Date position assumed/ended (if applicable) **8-18-06/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Name [REDACTED]

Street address [REDACTED]

City [REDACTED] State [REDACTED] Zip [REDACTED]

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity [REDACTED]

Date position assumed/ended (if applicable) [REDACTED] / [REDACTED]

Percent of ownership [REDACTED] Date of ownership [REDACTED]

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **THE OHIO VALLEY COAL COMPANY**

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Name of business entity **GENWAL RESOURCES, INC.**

Name **P. BRUCE HILL**

Street address **29325 CHAGRIN BLVD, SUITE 300**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **PRESIDENT AND CEO**

Date position assumed/ended (if applicable) **8-18-06/**

Percent of ownership **0** Date of ownership

Name **ROBERT D. MOORE**

Street address **29325 CHAGRIN BLVD, SUITE 300**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **TREASURER**

Date position assumed/ended (if applicable) **8-18-06/**

Percent of ownership **0** Date of ownership

Name **MICHAEL O. MCKOWN**

Street address **29325 CHAGRIN BLVD, SUITE 300**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **SECRETARY**

Date position assumed/ended (if applicable) **8-18-06/**

Percent of ownership **0** Date of ownership

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **THE OHIO VALLEY COAL COMPANY**

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Name of business entity **GENWAL RESOURCES, INC.**

Name **ROBERT E. MURRAY**

Street address **29325 CHAGRIN BLVD, SUITE 300**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **DIRECTOR**

Date position assumed/ended (if applicable) **8-18-06/**

Percent of ownership **0** Date of ownership

Name **DOUGLASS SMITH**

Street address **29325 CHAGRIN BLVD, SUITE 300**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **PRESIDENT**

Date position assumed/ended (if applicable) **8-18-06/12-16-06**

Percent of ownership **0** Date of ownership

Name

Street address

City  State  Zip

EIN , or SSN

Title of position within entity

Date position assumed/ended (if applicable) **/**

Percent of ownership  Date of ownership

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **THE OHIO VALLEY COAL COMPANY**

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Name of business entity **WEST RIDGE RESOURCES INC.**

Name **P. BRUCE HILL**

Street address **29325 CHAGRIN BLVD, SUITE 300**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **PRESIDENT AND CEO**

Date position assumed/ended (if applicable) **8-18-06/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Name **ROBERT D. MOORE**

Street address **29325 CHAGRIN BLVD, SUITE 300**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **TREASURER**

Date position assumed/ended (if applicable) **8-18-06/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Name **MICHAEL O. MCKOWN**

Street address **29325 CHAGRIN BLVD, SUITE 300**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN [REDACTED], or SSN [REDACTED]

Title of position within entity **SECRETARY**

Date position assumed/ended (if applicable) **8-18-06/** [REDACTED]

Percent of ownership **0** Date of ownership [REDACTED]

Submit and identify additional pages necessary to complete response.

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OWNERS AND CONTROLLERS

Applicant's Name **THE OHIO VALLEY COAL COMPANY**

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, and stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. Persons holding or who have held multiple positions must be listed separately for each position. If any owner or controller listed is a business entity and not an individual, also complete an Owners and Controllers for that business entity.

Name of business entity **WEST RIDGE RESOURCES, INC.**

Name **ROBERT E. MURRAY**

Street address **29325 CHAGRIN BLVD, SUITE 300**

City **PEPPER PIKE** State **OH** Zip **44122**

EIN , or SSN

Title of position within entity **DIRECTOR**

Date position assumed/ended (if applicable) **8-18-06/**

Percent of ownership **0** Date of ownership

Name

Street address

City  State  Zip

EIN , or SSN

Title of position within entity

Date position assumed/ended (if applicable) **/**

Percent of ownership  Date of ownership

Name

Street address

City  State  Zip

EIN , or SSN

Title of position within entity

Date position assumed/ended (if applicable) **/**

Percent of ownership  Date of ownership

Submit and identify additional pages necessary to complete response.

Part 1: Section A

- (8) Provide the following for all persons owning or controlling the coal to be mined by another person under a lease, sublease, or other contract and (a) having the right to receive the coal after mining, or (b) having the authority to determine the manner in which another person conducts coal mining operations. If none, check box: [ ☒ ]. If any person listed is a business entity and not an individual, also complete Owners & Controllers for that person.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone \_\_\_\_ - \_\_\_\_ - \_\_\_\_\_

EIN \_\_\_\_\_, or SSN \_\_\_\_\_

O & C relationship to entity \_\_\_\_\_

Date O & C relationship began/ended (if applicable) \_\_\_\_\_ / \_\_\_\_\_

Submit and identify additional pages necessary to complete response.

- (9) List below the person or persons primarily responsible for ensuring that the applicant will comply with Chapter 1513. of the Revised Code and the rules adopted pursuant thereto while mining and reclaiming the area for which this permit is requested.

**ROBERT E. MURRAY**

- (10) Has the applicant, any person listed under items A(3), (7), and (8), or any person listed on Owners and Controllers who "owned or controlled" or "owns or controls" as defined in 1501:13-4-03(A), held a coal mining permit in the United States within the five years preceding the date of the application? ☒ Yes, \_\_\_ No. If "yes," submit Permit List. **SEE PERMIT LIST**
- (11) Does the applicant, any person listed under items A(3), (7), and (8), or any person listed on Owners & Controllers have a pending coal mining application in any state of the United States? ☒ Yes, \_\_\_ No. If "yes," submit Pending Application List. **SEE APPLICATION LIST**
- (12) Indicate name of mine **POWHATAN NO. 6 MINE**
- (13) List below the MSHA identification numbers for the mine and for all mine-associated structures requiring MSHA approval on the proposed permit area.  
**33-01159**  
**1210-OH08-0025-0003**  
**1210-OH08-0025-0004**  
**1210-OH08-0025-0005**
- (14) Submit Certificate of Insurance.  
**SEE CERTIFICATE OF INSURANCE**



OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

PERMIT LIST

Applicant's Name **The Ohio Valley Coal Company**

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

Name of Business Entity **The Ohio Valley Coal Company**  
Address **56854 Pleasant Ridge Road**  
City **Alliedonia** State **OH** Zip **43902**  
Telephone **740-926-1351**  
EIN **34-1041610** or SSN

Permit Number	State	Regulatory Authority	MSHA Number and Date Issued
<b>D-0360</b>	<b>OH</b>	<b>DMRM</b>	<b>33-01159/5-27-1988</b>

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

Part 1: Section A

**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**PERMIT LIST**

**Applicant's Name** **The Ohio Valley Coal Company**

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

**Name of Business Entity** **Energy Resources, Inc.**

**Address** **PO Box 259**

**City** **Brockway** **State** **PA** **Zip** **15824**

**Telephone** **814-865-8021**

**EIN** **31-1044044** **or SSN** [REDACTED]

Permit Number	State	Regulatory Authority	MSHA Number and Date Issued
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
33901602	PA	DEP	36-02695/05-25-1988
17930120	PA	DEP	36-02695/05-25-1988
24880101	PA	DEP	36-02695/05-25-1988
24880103	PA	DEP	36-02695/05-25-1988
24890101	PA	DEP	36-02695/05-25-1988
24890102	PA	DEP	36-02695/05-25-1988
24990101	PA	DEP	36-02695/05-25-1988
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
24980101	PA	DEP	36-02695/05-25-1988

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

**Robert E. Murray, shareholder 100%**

**Part 1: Section A**

**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**PERMIT LIST**

**Applicant's Name The Ohio Valley Coal Company**

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

**Name of Business Entity Energy Resources Inc.**

**Address PO Box 259**

**City Brockway State PA Zip 15824**

**Telephone 814-265-8021**

**EIN 31-1044044 or SSN**

Permit Number	State	Regulatory Authority	MSHA Number and Date Issued
24900102	PA	DEP	36-02695/5-25-1988
24900104	PA	DEP	36-02695/5-25-1988
24900103	PA	DEP	36-02695/5-25-1988
24960101	PA	DEP	36-02695/5-25-1988
24970102	PA	DEP	36-02695/5-25-1988
24970103	PA	DEP	36-02695/5-25-1988
24980101	PA	DEP	36-02695/5-25-1988
24970101	PA	DEP	36-02695/5-25-1988
24305006	PA	DEP	36-02695/5-25-1988

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

**Robert E. Murray , shareholder 100%**

**Part 1: Section A**

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

PERMIT LIST

Applicant's Name **THE OHIO VALLEY COAL COMPANY**

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

Name of Business Entity **OHIOAMERICAN ENERGY, INCORPORATED**  
Address **29325 CHAGRIN BLVD, SUITE 300**  
City **PEPPER PIKE** State **OH** Zip **44122**  
Telephone **216-765-1240**  
EIN  or SSN

Permit Number	State	Regulatory Authority	MSHA Number and Date Issued
<b>D-2180</b>	<b>OH</b>	<b>DMRM</b>	<b>33-04550</b>
<b>D-2291</b>	<b>OH</b>	<b>DMRM</b>	<b>33-04569</b>
<b>D-2304</b>	<b>OH</b>	<b>DMRM</b>	<b>33-04550</b>
<b>          </b>	<b>          </b>	<b>          </b>	<b>          </b>
<b>          </b>	<b>          </b>	<b>          </b>	<b>          </b>
<b>          </b>	<b>          </b>	<b>          </b>	<b>          </b>
<b>          </b>	<b>          </b>	<b>          </b>	<b>          </b>
<b>          </b>	<b>          </b>	<b>          </b>	<b>          </b>
<b>          </b>	<b>          </b>	<b>          </b>	<b>          </b>
<b>          </b>	<b>          </b>	<b>          </b>	<b>          </b>
<b>          </b>	<b>          </b>	<b>          </b>	<b>          </b>

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

PERMIT LIST

Applicant's Name **The Ohio Valley Coal Company**

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

Name of Business Entity **American Energy Corporation**  
Address **43521 Mayhugh Hill Road, Twp Highway 88**  
City **Beallsville State OH Zip 43716**  
Telephone **740-926-9152**  
EIN **31-1550443** or SSN

Permit Number	State	Regulatory Authority	MSHA Number and Date Issued
<b>D-0425</b>	<b>OH</b>	<b>DMRM</b>	<b>33-01070/10-22-1984</b>
<b>D-1159</b>	<b>OH</b>	<b>DMRM</b>	<b>33-02122/01-26-1998</b>

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

**Robert E. Murray , shareholder 100%**

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

PERMIT LIST

Applicant's Name **The Ohio Valley Coal Company**

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

Name of Business Entity **Belmont Coal, Inc.**  
Address **P. O. Box 146**  
City **Powhatan Point** State **OH** Zip **43942**  
Telephone **714-795-5200**  
EIN **31-1536602** or SSN

Permit Number	State	Regulatory Authority	MSHA Number and Date Issued
<b>D-0241</b>	<b>OH</b>	<b>DMRM</b>	<b>33-03048/7/2/1993</b>

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

**Robert E. Murray, shareholder 100%**

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

PERMIT LIST

Applicant's Name **The Ohio Valley Coal Company**

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

Name of Business Entity **The Oklahoma Coal Company**  
Address **29325 Chagrin Blvd**  
City **Pepper Pike** State **OH** Zip **44122**  
Telephone **216-765-1240**  
EIN **34-1673480** or SSN

Permit Number	State	Regulatory Authority	MSHA Number and Date Issued
<b>D-0230</b>	<b>OH</b>	<b>DMRM</b>	<b>n/a</b>

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

**Robert E. Murray, shareholder 100%**

Part 1: Section A

**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**PERMIT LIST**

Applicant's Name **The Ohio Valley Coal Company**

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

Name of Business Entity **TDK Coal Sales**  
Address **PO Box 259**  
City **Brockway** State **PA** Zip **15824**  
Telephone **814-865-8021**  
EIN **25-1422374** or SSN

Permit Number	State	Regulatory Authority	MSHA Number and Date Issued
<b>03960103</b>	<b>PA</b>	<b>DEP</b>	<b>36-07707/1-14-1997</b>
<b>03940101</b>	<b>PA</b>	<b>DEP</b>	<b>36-07707/6-6-1995</b>
<b>16910104</b>	<b>PA</b>	<b>DEP</b>	<b>36-07707/5-11-1992</b>
<b>33960109</b>	<b>PA</b>	<b>DEP</b>	<b>36-07707/3-03-1998</b>
<b>16980102</b>	<b>PA</b>	<b>DEP</b>	<b>36-07707/9-10-1998</b>
<b>24970104</b>	<b>PA</b>	<b>DEP</b>	<b>36-08867/9-10-1998</b>

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

**Part 1: Section A**



**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**PERMIT LIST**

Applicant's Name **The Ohio Valley Coal Company**

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

Name of Business Entity **UtahAmerican Energy, Inc**  
Address **375 S. Carbon Ave Suite 127**  
City **Price** State **UT** Zip **84501**  
Telephone **435-888-4000**  
EIN **34-1874726** or SSN

Permit Number	State	Regulatory Authority	MSHA Number and Date Issued
<b>ACT 007/013</b>	<b>UT</b>	<b>DOGM</b>	<b>42-00100/12-10-1984</b>
<b>ACT 007/013</b>	<b>UT</b>	<b>DOGM</b>	<b>42-02241/2-24-1999</b>
<b>ACT 007/019</b>	<b>UT</b>	<b>DOGM</b>	<b>42-02028/4-1-1989</b>
<b>ACT 007/041</b>	<b>UT</b>	<b>DOGM</b>	<b>42-02233/3-1-1999</b>
<b>ACT 015-032</b>	<b>UT</b>	<b>DOGM</b>	<b>42-01715/11/22/1983</b>

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

**Part 1: Section A**

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

PERMIT LIST

Applicant's Name **The Ohio Valley Coal Company**

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

Name of Business Entity **UtahAmerican Energy, Inc**  
Address **375 South Carbon Ave., Suite 127**  
City **Price** State **Ut** Zip **84501**  
Telephone  
EIN **34-1874726** or SSN

Permit Number	State	Regulatory Authority	MSHA Number and Date Issued
<b>ACT/007/013</b>	<b>UT</b>	<b>DOGM</b>	<b>42-00100/12-24-1978</b>
			<b>42-02241/4/15/1999</b>

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

Part 1: Section A

**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**PERMIT LIST**

Applicant's Name **The Ohio Valley Coal Company**

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

Name of Business Entity **The American Coal Company**

Address **29325 Chagrin Blvd**

City **Pepper Pike** State **OH** Zip **44122**

Telephone **216-765-1240**

EIN **73-1546124** or SSN

Permit Number	State	Regulatory Authority	MSHA Number and Date Issued
02	IL	OFFICE OF MINES AND MINERALS	11-02752/10-14-1998
255	IL	OFFICE OF MINES AND MINERALS	11-02752/10-14-1998
257	IL	OFFICE OF MINES AND MINERALS	11-02752/10-14-1998
306	IL	OFFICE OF MINES AND MINERALS	11-02752/10-14-1998
352	IL	OFFICE OF MINES AND MINERALS	11-02752/10-14-1998

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

**Robert E. Murray, President**

**Part 1: Section A**

**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**PERMIT LIST**

**Applicant's Name** The Ohio Valley Coal Company

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

**Name of Business Entity** UMCO Energy Inc.

**Address** 981 Route 917

**City** Bentleville **State** PA **Zip** 15314

**Telephone** 724-258-2056

**EIN** 52-1615668 or **SSN**

Permit Number	State	Regulatory Authority	MSHA Number and Date Issued
63921301	PA	DEP	36-08375/6-8-1994

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

**Robert E. Murray, Director**

**Part 1: Section A**

**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**PERMIT LIST**

Applicant's Name **The Ohio Valley Coal Company**

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

Name of Business Entity **Maple Creek Mining Company**

Address **981 Route 917**

City **Bentleville** State **PA** Zip **15314**

Telephone **724-258-2056**

EIN **25-1755305** or SSN

Permit Number	State	Regulatory Authority	MSHA Number and Date Issued
<b>63841302</b>	<b>PA</b>	<b>DEP</b>	<b>36-00970/6-30-1995</b>
<b>63733706</b>	<b>PA</b>	<b>DEP</b>	<b>36-00970/6-30-1995</b>
<b>63723707</b>	<b>PA</b>	<b>DEP</b>	<b>36-00970/6-30-1995</b>

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

**Robert E. Murray, Director**

**Part 1: Section A**

**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**PERMIT LIST**

Applicant's Name **The Ohio Valley Coal Company**

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

Name of Business Entity **Mon-Valley Transportation Center, Inc.**  
Address **PO Box 135 1060 Ohio Ave**  
City **Glassport** State **OH** Zip **15045**  
Telephone **412-673-1500**  
EIN **15-1490495** or SSN

Permit Number	State	Regulatory Authority	MSHA Number and Date Issued
<b>2851602</b>	<b>PA</b>	<b>DEP</b>	<b>36-08678/6-8-1995</b>

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

**Robert E. Murray, Director**

**Part 1: Section A**

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

PERMIT LIST

Applicant's Name **THE OHIO VALLEY COAL COMPANY**

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

Name of Business Entity **WEST RIDGE RESOURCES, INC**  
Address **29325 CHAGRIN BLVD, SUITE 300**  
City **PEPPER PIKE** State **OH** Zip **44122**  
Telephone **216-865-1240**  
EIN **87-0585129** or SSN

Permit Number	State	Regulatory Authority	MSHA Number and Date Issued
<b>C/007/041</b>	<b>UT</b>	<b>DIVISION OF OIL, GAS, AND MINING</b>	<b>42-02233</b>

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

Part 1: Section A

**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**PERMIT LIST**

Applicant's Name **THE OHIO VALLEY COAL COMPANY**

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

Name of Business Entity **ANDALEX RESOURCE MANAGEMENT, INC**  
Address **29325 CHAGRIN BLVD, SUITE 300**  
City **PEPPER PIKE** State **OH** Zip **44122**  
Telephone **216-865-1240**  
EIN **61-0731325** or SSN

Permit Number	State	Regulatory Authority	MSHA Number and Date Issued
<b>C/007/019</b>	<b>UT</b>	<b>DIVISION OF OIL, GAS, AND MINING</b>	<b>42-02028, 42-01474, 42-01750</b>
<b>C/007/033</b>	<b>UT</b>	<b>DIVISION OF OIL, GAS, AND MINING</b>	<b>42-01864</b>

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

**Part 1: Section A**

Revised 02/06  
DNR-744-9014



OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

PERMIT LIST

Applicant's Name **THE OHIO VALLEY COAL COMPANY**

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

Name of Business Entity **GENVAL RESOURCES, INC**  
Address **29325 CHAGRIN BLVD, SUITE 300**  
City **PEPPER PIKE** State **OH** Zip **44122**  
Telephone **216-865-1240**  
EIN **87-0533099** or SSN

Permit Number	State	Regulatory Authority	MSHA Number and Date Issued
<b>C/015/032</b>	<b>UT</b>	<b>DIVISION OF OIL, GAS, AND MINING</b>	<b>42-02356, 42-01715</b>

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

Part 1: Section A

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

PENDING APPLICATION LIST

Applicant's Name **THE OHIO VALLEY COAL COMPANY**

Provide the following information for each pending coal mining application for either the applicant or any person who owns or controls the applicant.

Indicate the business entity for which this listing has been completed  
**OHIOAMERICAN ENERGY INCORPORATED**

Application No.	Name of Regulatory Authority	State
<b>10339</b>	<b>DMRM</b>	<b>OH</b>

Part 1: Section A

**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**PENDING APPLICATION LIST**

Applicant's Name **THE OHIO VALLEY COAL COMPANY**

Provide the following information for each pending coal mining application for either the applicant or any person who owns or controls the applicant.

Indicate the business entity for which this listing has been completed  
**THE OHIO VALLEY COAL COMPANY**

Application No.	Name of Regulatory Authority	State
<b>D-0360-14</b>	<b>DMRM</b>	<b>OHIO</b>
<b>D-0360-15</b>	<b>DMRM</b>	<b>OHIO</b>

**Part 1: Section A**

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

CERTIFICATE OF INSURANCE

Name of Insured **The Ohio Valley Coal Company**

This is to certify that the policy of insurance listed below has been issued to the above named insured and is in force at this time. The policy provides bodily injury and property damage insurance for all coal mining and reclamation operations of the insured in the state of Ohio as required by 1501:13-7-07 of the Administrative Code stated below.

Name of Insurer **Federal Insurance Company**

Policy Number **3710 44 10**

Policy Period **6/1/07-6/1/08**

Name of Underwriting Agent **Reschini Agency, Inc.**

Address of Underwriting Agent **922 Philadelphia St.  
Indiana, PA 15701**

Telephone No. of Underwriting Agent **800 828 5040**

In the event of cancellation or non-renewal of this policy, including non-payment of policy premiums, the insurer agrees to promptly notify: The Division of Mineral Resources Management, 2045 Morse Road, Building H-3, Columbus, Ohio 43229-6693.

6/5/07  
Date

Karen Williams  
Signature of Underwriting Agent

This certificate is issued as a matter of information only and confers no rights upon the Division of Mineral Resources Management. This certificate does not amend, extend or alter the coverage afforded by the policy listed above.

1501:13-7-07(B) THE PUBLIC LIABILITY INSURANCE POLICY SHALL:

- (1) BE IN EFFECT DURING THE TERM OF THE PERMIT OR ANY RENEWAL, INCLUDING THE LENGTH OF ALL RECLAMATION OPERATIONS;
- (2) PROVIDE FOR PERSONAL INJURY AND PROPERTY DAMAGE PROTECTION IN AMOUNTS ADEQUATE TO COMPENSATE ANY PERSONS INJURED OR PROPERTY DAMAGED AS A RESULT OF COAL MINING AND RECLAMATION OPERATIONS, INCLUDING THE USE OF EXPLOSIVES. THE MINIMUM INSURANCE COVERAGE FOR BODILY INJURY AND PROPERTY DAMAGE SHALL BE THREE HUNDRED THOUSAND DOLLARS FOR EACH OCCURRENCE AND FIVE HUNDRED THOUSAND DOLLARS IN THE AGGREGATE; AND
- (3) INCLUDE A RIDER REQUIRING THAT THE INSURER NOTIFY THE CHIEF WHENEVER SUBSTANTIVE CHANGES ARE MADE IN THE POLICY, INCLUDING ANY TERMINATION OR FAILURE TO RENEW.

Part 1: Section A

B. COMPLIANCE INFORMATION

- (1) Has the applicant, any subsidiary, affiliate, or persons controlled by or under common control with the applicant:
- (a) Had a federal or state coal mining permit suspended or revoked in the five years preceding the data of submission of this application?  
\_\_\_ Yes, X No. If "yes," submit Suspension, Revocation & Forfeiture List.
- (b) Forfeited a mining bond or similar security deposited in lieu of bond?  
\_\_\_ Yes, X No. If "yes," submit Suspension, Revocation & Forfeiture List.
- (2) Has the applicant been issued a notice of violation (NOV) in connection with any coal mining and reclamation operation during the three years preceding the date of submission of this application for violations of Chapter 1513. of the Revised Code or these rules, or of any federal or state law, rule, or regulation pertaining to air or water environmental protection? X Yes, \_\_\_ No. If "yes," submit NOV List. **SEE NOV LIST**
- (3) Have any unabated federal or state cessation orders (COs) and unabated air and water quality notices of violations (NOVs) been received prior to the submission date of this application by any coal mining and reclamation operation owned or controlled by either the applicant or by any person who owns or controls the applicant? \_\_\_ Yes, X No. If "yes," submit Unabated Violations.

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

NOV LIST

Applicant's Name THE OHIO VALLEY COAL COMPANY

Permit Number	Violation Number	Date of Issuance	Issuing Agency	State	Brief Description of NOV	Action Taken to Abate NOV	Current Status of NOV (*)
D-0360	19656	5-23-2006	DMRM	OH	FAILURE TO MAINTAIN THE PERIMETER OF THE DIVERSION DITCH	RESTORED DITCH	TERMINATED
D-0360	19662	8-2-2004	DMRM	OH	FAILURE TO MAINTAIN A SEDIMENT CONTROL MEASURE	STOPPED FLOW	TERMINATED
D-0360	28473	11-30-2006	DMRM	OH	CLEAN COAL STOCK PILE HAS OVERFLOWED THE DIVERSION DITCH	OPENED DITCH	TERMINATED
D-0360	28474	11-30-2006	DMRM	OH	COAL BLOCKING DRAINAGE DITCH	OPENED DITCH	TERMINATED
D-0360	28538	8-17-07	DMRM	OH	FAILURE TO MAINTAIN DRAINAGE DITCH/CULVERT AROUND THE CLEAN COAL STOCKPILE AND TO MAINTAIN POND 10 PUMPING SYSTEM/DISCHARGE	MOVED COAL REPAIRED PUMP	TERMINATED



C. RIGHT OF ENTRY INFORMATION

- (1)(a) Provide the following information for every legal or equitable owner of record, surface and mineral, of the property to be mined on the permit area (i.e. areas affected by surface operations and facilities), indicating whether the ownership is of surface, coal or non-coal mineral. **N/A**

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Surface \_\_\_\_\_, Coal \_\_\_\_\_, Non-coal Mineral \_\_\_\_\_

Deed Parcel No. \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Surface \_\_\_\_\_, Coal \_\_\_\_\_, Non-coal Mineral \_\_\_\_\_

Deed Parcel No. \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Surface \_\_\_\_\_, Coal \_\_\_\_\_, Non-coal Mineral \_\_\_\_\_

Deed Parcel No. \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Surface \_\_\_\_\_, Coal \_\_\_\_\_, Non-coal Mineral \_\_\_\_\_

Deed Parcel No. \_\_\_\_\_



C.(1)(b)

Provide the following information for every legal or equitable owner of the property to be mined covered by the underground workings indicating whether ownership is for the surface or coal.

Name D.W. Carlier

Address Box 148 Harlen Acres

City Morristown State Ohio Zip 43759

Surface X, Coal       , Non-coal Mineral X

Deed Parcel No. 1-1-95

Name K.M. Levi

Address P.O. Box 142, 330 North Main Street

City Bethesda State Ohio Zip 43719

Surface X, Coal       , Non-coal Mineral X

Deed Parcel No. 1-1-95

Name M.A. & S.L. Gossett

Address 61374 Kemp Road

City Belmont State Ohio Zip 43718

Surface X, Coal       , Non-coal Mineral X

Deed Parcel No. 1-1-91

Name H.R. & C.P. Lane et al

Address 61364 Kemp Road

City Belmont State Ohio Zip 43718

Surface X, Coal       , Non-coal Mineral X

Deed Parcel No. 1-1-91

Name R.E. Conner

Address 61504 Carleton Road

City Belmont State Ohio Zip 43718

Surface X, Coal       , Non-coal Mineral X

Deed Parcel No. 1-18-53

Name M.R. & R.A. McFarland  
Address 42181 Gregg Road  
City Belmont State Ohio Zip 43718  
Surface X, Coal       , Non-coal Mineral       X        
Deed Parcel No. 1-1-94, 1-1-95

Name T.L. & V.M. Kemp  
Address 60905 Chestnut Level Road  
City Belmont State Ohio Zip 43718  
Surface X, Coal       , Non-coal Mineral       X        
Deed Parcel No. 1-1-73

Name C.F. & K.P. Swallie  
Address 61404 Carleton Road  
City Belmont State Ohio Zip 43718  
Surface X, Coal       , Non-coal Mineral       X        
Deed Parcel No. 1-1-95, 1-1-96

Name T. & L. Lucas  
Address 61501 Secrest Road  
City Belmont State Ohio Zip 43718  
Surface X, Coal       , Non-coal Mineral       X        
Deed Parcel No. 1-1-95, 1-1-96

Name C.K. & K.A. Cole  
Address 41850 Palmer Road  
City Belmont State Ohio Zip 43718  
Surface X, Coal       , Non-coal Mineral       X        
Deed Parcel No. 1-1-92

Name R. Curry  
Address P.O. Box 98  
City Byesville State Ohio Zip 43723  
Surface X, Coal       , Non-coal Mineral X  
Deed Parcel No. 1-1-92, 1-1-93

Name K.S. & H.A. Cordner  
Address P.O. Box 52  
City Bannock State Ohio Zip 43972  
Surface X, Coal       , Non-coal Mineral X  
Deed Parcel No. 1-1-90, 1-1-92

Name J. & N. Gossett  
Address P.O. Box 33  
City Bannock State Ohio Zip 43972  
Surface X, Coal       , Non-coal Mineral X  
Deed Parcel No. 1-1-92

Name The Ohio Valley Coal Company (TOVCC)  
Address 56854 Pleasant Ridge Road  
City Alledonia State Ohio Zip 43902  
Surface       , Coal X, Non-coal Mineral         
Deed Parcel No. Entire Application Area

- C. (2) Provide the following information for the holders of record of any leasehold interest in the coal to be mined or property to be affected by surface operations or facilities, indicating whether the held interest is of surface, coal or non-coal rights. **N/A**

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Surface \_\_\_\_\_, Coal \_\_\_\_\_, Non-coal Mineral \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Surface \_\_\_\_\_, Coal \_\_\_\_\_, Non-coal Mineral \_\_\_\_\_

Submit and identify additional pages necessary to complete response.

- (3) Are there purchasers of record under a real estate contract of the coal to be mined or property to be affected by surface operations and facilities?  
\_\_\_ Yes, \_\_\_ No. If "yes," submit Purchasers of Record. **N/A**
- (4) Is any owner, holder, or purchaser listed in items C(1) (a and b), (2), or (3) respectively, a business entity other than a single proprietorship?  
**X** Yes, \_\_\_ No. If "yes," submit Other Business Entities. **See Other Business Entities**
- (5) Is any part of the proposed permit area adjacent to any lands which are not owned by those persons identified in item C(1)(a)? \_\_\_ Yes, \_\_\_ No. If "yes," submit Adjacent Owners. **N/A**
- (6) Does the applicant hold lands, interests in lands, options, or pending bids on interests for lands that are contiguous to the property to be mined?  
**X** Yes, \_\_\_ No. If "yes," provide a description of the lands.  
**See Future Application Areas Map**
- (7) Is it anticipated that individual mining permits will be sought for any of those lands described in item C(6) above? **X** Yes, \_\_\_ No. If "yes," submit as an addendum and identify those lands to include the size, sequence, and timing of future mining permits, utilizing a map pursuant to 1501:13-4-13(J)(29), Ohio Administrative Code.  
**It is anticipated that all mining in lands adjacent to the property to be mined, will be mined under the D-0360 permit, see Future Application Areas Map.**

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

OTHER BUSINESS ENTITIES

Applicant's Name **The Ohio Valley Coal Company**

A separate attachment is to be submitted for each business entity.

Name of business entity **Consolidated Land Company**

Statutory agent **A&H Statutory**

Street Address **1100 Huntington Building**

City **Cleveland** State **OH** Zip **44115**

Person's name **Robert D. Moore** Position **President, Treasurer, Assistant Secretary, Director**

Street Address **29325 Chagrin Blvd, Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Person's name **Michael O. McKown** Position **Secretary**

Street Address **29325 Chagrin Blvd, Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Person's name **Elmer A. Mortillo** Position **Assistant Secretary**

Street Address **29325 Chagrin Blvd, Suite 300**

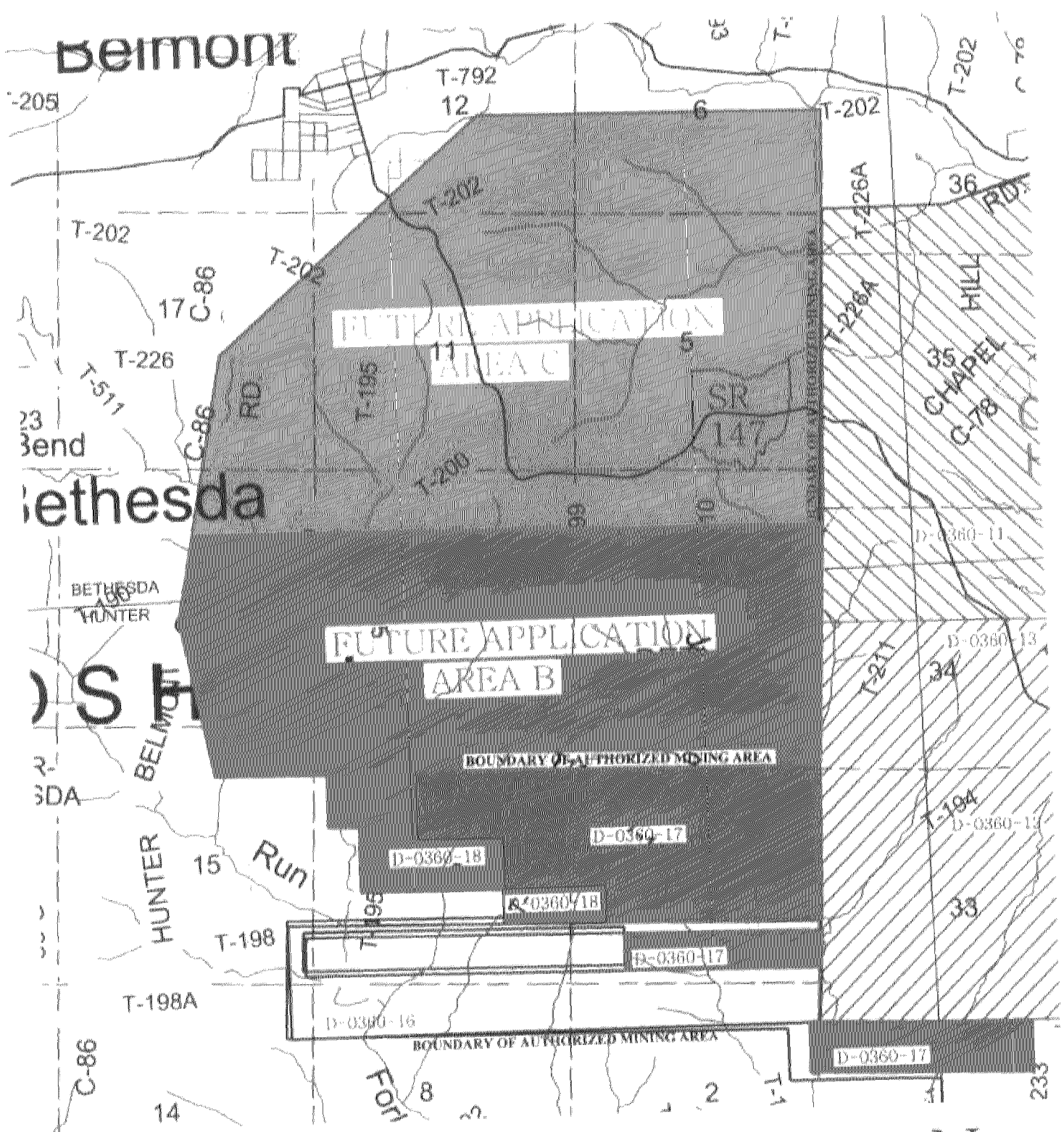
City **Pepper Pike** State **OH** Zip **44122**

Person's name **Murray Energy Corporation** Position **Shareholder**

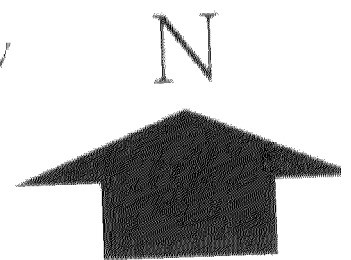
Street Address **29325 Chagrin Blvd, Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Part 1: Section C



The Ohio Valley Coal Company  
Powhatan No. 6 Mine  
Permit D-0360  
Future Application Areas  
Scale: 1" = 1/2 Mile



- C. (8) (a) Provide either of the following to allow for coal mining operations on the permit area: **N/A**
- (i) A copy of the right-of-entry documents attached as addenda, or
  - (ii) A Right-of-Entry Affidavit
- (b) Provide either of the following to allow for coal mining operations within the underground workings:
- (i) A copy of the right-of-entry documents attached as addenda, or
  - (ii) A Right-of-Entry Affidavit **SEE RIGHT OF ENTRY AFFIDAVIT**

**AND ADDENDA**

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

RIGHT-OF-ENTRY AFFIDAVIT

Applicant's Name The Ohio Valley Coal Company

RIGHT-OF-ENTRY AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn,  
says that the following described documents convey to the applicant the legal  
right explained below and is a subject of litigation as shown below.

Type of document Limited Warranty Deed

Execution Date 5/1/1997

Expiration Date None

Parties: From Consolidated Land Company to The Ohio Valley Coal Co.

Description of land: Number of Acres See Coal Deed Parcel Map

County Belmont Township Goshen

Section 9 Lot 1-18-53

Explanation of legal rights claimed See addendum to Right-of-Entry Affidavit,  
Item 1

Pending litigation Yes ☐ No ☒

<u>David L. Bartsch</u>	<u>10-24-07</u>	<u>Env. Coord.</u>
Signature of Affiant	Date	Position

Sworn to before me and subscribed in my presence this 24<sup>th</sup> day of,  
October, 20 07

Penny J. Elliott  
Notary Public



PENNY J. ELLIOTT, Notary Public  
For The State of Ohio.  
Commission Expires February 11, 2008  
Recorded in Monroe County



OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

RIGHT-OF-ENTRY AFFIDAVIT

Applicant's Name The Ohio Valley Coal Company

RIGHT-OF-ENTRY AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn,  
says that the following described documents convey to the applicant the legal  
right explained below and is a subject of litigation as shown below.

Type of document Limited Warranty Deed

Execution Date 5/1/1997

Expiration Date None

Parties: From Consolidated Land Company to The Ohio Valley Coal Co.

Description of land: Number of Acres See Coal Deed Parcel Map

County Belmont Township Goshen

Section 3 & 9 Lot 1-1-73

Explanation of legal rights claimed See addendum to Right-of-Entry Affidavit  
Item 2

Pending litigation Yes ☐ No ☒

David L. Bartsch 10-24-07 Env. Coord.  
Signature of Affiant Date Position

Sworn to before me and subscribed in my presence this 24<sup>th</sup> day of,  
October, 20 07

Penny J. Elliott  
Notary Public



PENNY J. ELLIOTT, Notary Public  
For The State of Ohio  
Commission Expires February 11, 2008  
Recorded in Monroe County.

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

RIGHT-OF-ENTRY AFFIDAVIT

Applicant's Name The Ohio Valley Coal Company

RIGHT-OF-ENTRY AFFIDAVIT

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right explained below and is a subject of litigation as shown below.

Type of document Limited Warranty Deed

Execution Date 5/1/1997

Expiration Date None

Parties: From Consolidated Land Company to The Ohio Valley Coal Co.

Description of land: Number of Acres See Coal Deed Parcel Map

County Belmont

Township Goshen

Section 9

Lot 1-1-90

Explanation of legal rights claimed See addendum to Right-of-Entry Affidavit,  
Item 3

Pending litigation Yes ☐ No ☒

David L. Bartsch 10-24-07 Env. Coord.  
Signature of Affiant Date Position

Sworn to before me and subscribed in my presence this 24<sup>th</sup> day of,  
October, 20 07

Penny Elliott  
Notary Public



PENNY J. ELLIOTT, Notary Public  
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OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

RIGHT-OF-ENTRY AFFIDAVIT

Applicant's Name The Ohio Valley Coal Company

RIGHT-OF-ENTRY AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn,  
says that the following described documents convey to the applicant the legal  
right explained below and is a subject of litigation as shown below.

Type of document Limited Warranty Deed

Execution Date 5/1/1997

Expiration Date None

Parties: From Consolidated Land Company to The Ohio Valley Coal Co.

Description of land: Number of Acres See Coal Deed Parcel Map

County Belmont Township Goshen


Section 9 Lot 1-1-91

Explanation of legal rights claimed See addendum to Right-of-Entry Affidavit,  
Item 4

Pending litigation Yes ☐ No ☒

<u>David L. Bartsch</u>	<u>10-24-07</u>	<u>Env. Coord.</u>
Signature of Affiant	Date	Position

Sworn to before me and subscribed in my presence this 24<sup>th</sup> day of,  
October, 20 07

Penny J. Elliott  
Notary Public  
 PENNY J. ELLIOTT, Notary Public  
For The State of Ohio  
Commission Expires February 11, 2008  
Recorded in Monroe County

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

RIGHT-OF-ENTRY AFFIDAVIT

Applicant's Name The Ohio Valley Coal Company

RIGHT-OF-ENTRY AFFIDAVIT

State of Ohio Belmont County, ss. David L. Bartsch being first duly sworn,  
says that the following described documents convey to the applicant the legal  
right explained below and is a subject of litigation as shown below.

Type of document Limited Warranty Deed

Execution Date 5/1/1997

Expiration Date None

Parties: From Consolidated Land Company to The Ohio Valley Coal Co.

Description of land: Number of Acres See Coal Deed Parcel Map

County Belmont Township Goshen


Section 9 Lot 1-1-92, 1-1-93

Explanation of legal rights claimed See addendum to Right-of-Entry Affidavit  
Item 5

Pending litigation Yes ☐ No ☒

David L. Bartsch 10-24-07 Env. Coord.  
Signature of Affiant Date Position

Sworn to before me and subscribed in my presence this 24<sup>th</sup> day of,  
October, 2007

Penny J. Elliott  
Notary Public  
 PENNY J. ELLIOTT, Notary Public  
For The State of Ohio  
Commission Expires February 11, 2008  
Recorded in Monroe County

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

RIGHT-OF-ENTRY AFFIDAVIT

Applicant's Name The Ohio Valley Coal Company

RIGHT-OF-ENTRY AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn,  
says that the following described documents convey to the applicant the legal  
right explained below and is a subject of litigation as shown below.

Type of document Limited Warranty Deed

Execution Date 5/1/1997

Expiration Date None

Parties: From Consolidated Land Company to The Ohio Valley Coal Co.

Description of land: Number of Acres See Coal Deed Parcel Map

County Belmont Township Goshen

Section 9 Lot 1-1-94

Explanation of legal rights claimed See addendum to Right-of-Entry Affidavit  
Item 6

Pending litigation Yes ☐ No ☒

<u>David L. Bartsch</u>	<u>10-24-07</u>	<u>Env. Coord.</u>
Signature of Affiant	Date	Position

Sworn to before me and subscribed in my presence this 24<sup>th</sup> day of,  
October, 2007

Penny J. Elliott  
Notary Public



PENNY J. ELLIOTT, Notary Public  
For The State of Ohio  
Commission Expires February 11, 2008  
Recorded in Monroe County

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

RIGHT-OF-ENTRY AFFIDAVIT

Applicant's Name The Ohio Valley Coal Company

RIGHT-OF-ENTRY AFFIDAVIT

State of Ohio, Belmont County, ss. David L. Bartsch being first duly sworn,  
says that the following described documents convey to the applicant the legal  
right explained below and is a subject of litigation as shown below.

Type of document Limited Warranty Deed

Execution Date 5/1/1997

Expiration Date None

Parties: From Consolidated Land Company to The Ohio Valley Coal Co.

Description of land: Number of Acres See Coal Deed Parcel Map

County Belmont Township Goshen

Section 9 Lot 1-1-95 & 1-1-96

Explanation of legal rights claimed See addendum to Right-of-Entry Affidavit  
Item 7

Pending litigation Yes ☐ No ☒

<u>David L. Bartsch</u>	<u>10-24-07</u>	<u>Env. Coord.</u>
Signature of Affiant	Date	Position

Sworn to before me and subscribed in my presence this 24<sup>th</sup> day of,  
October, 2007

Penny J. Elliott  
Notary Public



PENNY J. ELLIOTT, Notary Public  
For The State of Ohio  
Commission Expires February 11, 2008  
Recorded in Monroe County

THE OHIO VALLEY COAL COMPANY  
DEED RIGHTS ADDENDUM

**Item 1 - Deed rights to tract 1-18-53** - TOGETHER with the free, uninterrupted use and enjoyment of right of way, into, upon and under said lands at such points and in such manner as may be considered proper and necessary for the advantageous and economical operation thereof, and in the digging and mining of said coal and draining and ventilating of the mines and without liability therefor, and hereby waiving any and all damages that might or could arise therefrom by reason of such digging, mining, draining and ventilating and carrying away of all of said coal or the manufacture of said coal or other coal into coke or other products, together with the privilege of carrying or transferring and removing through the described premises this and other coal and mine supplies now owned or hereafter acquired by said grantee, his heir and assigns, generally freed, clear and discharged of any servitude whatever to the overlying land or anything therein or therein reserving however, the right to drill through said coal for oil or gas in such manner as not to endanger the working of said mines. Said grantee, its successors and assigns, shall have the right to purchase at any time so much of said land as may be necessary for railroad and in mining, manufacturing and marketing said coal at the price of \$100.00 per acre, upon receipt of which payment the said grantor, his heirs and assigns, agree to deliver a deed in fee for the same. It is agreed that said grantee, its successors or assigns, shall have the right at any time to enter upon said land and drill or test said coal and to remove at any time all machinery used for such purpose without being liable for any damages.

**Item 2 - Deed rights to tract 1-1-73** - TOGETHER with the free and uninterrupted rights of way into, upon and under said described land at such points and in such manner as may be useful for the purpose of digging, draining, ventilating mining and removing said coal; together with the privilege of mining and removing through said premises other coal belonging to the said grantee, its successors and assigns, or which may hereafter be acquired, together with the right and privilege to make drains on the surface and airholes, and change the same as the convenience of mining may require, together with all mining privileges on said surface or under, necessary for the removing of all of said coal in and under said premises, and neighboring properties, now or hereafter acquired by said grantee, its successors and assigns, and the said Grantee, its successors and assigns shall in no wise be liable for damages for failure to support the overlying surface or for the sinking or falling in of said surface, or for destroying any well or spring of water, or for diverting any waterfall or natural stream by reason of the removal of said coal or the exercise of the above named mining privileges, and together with the right to use or occupy such amount of surface of the above described land as may in the opinion of the said grantee, its successors and assigns, from time to time be useful for the purpose of mining said coal, or exercising any right incidental thereto; or that may be useful for the deposit of gob or refuse from said mines or for carrying on the coal business and for the erection of buildings and machinery and tenant houses and all other buildings needful or useful to carry on the coal business, or for the construction thereon of tracks, shafts, mine openings, and other structures and for the operation of railroads, and together with all rights to purchase the surface of said above described lands for such mining and other operations as hereinbefore mentioned; \$100 per acre to be paid to said grantor his heirs or assigns, for all surface privileges for mining and operating for coal as hereinbefore mentioned.

**Item 3 – Deed rights to tract 1-1-90** - TOGETHER with the right in perpetuity of mining, taking out and removing such coal; also the further right in perpetuity to remove coal to and from any other land or lands through entries, shafts, air-ways and mine openings of any and every kind whatever, with the same rights, in removing coal to or from such other lands, to use the surface, entries, shafts, pits and other appliances for mining, upon, in, through, or under the lands herein described, as are herein granted for the mining and removal of the coal hereby conveyed;

Provided further, that said grantee, its successors and assigns, shall have the right to purchase, from time to time so much of and such part and parts of the surface over the aforesaid described coal rights as said grantee its successors and assigns, may desire and as may be necessary for pits, shafts, buildings, structures and appurtenances thereto, platforms, drifts, drains, reservoirs, roads, switches, side tracks, machinery and chutes, to facilitate the taking out mining and removing of such coal, paying therefor at the rate of One Hundred dollars (\$100) per acre. And the said grantors for themselves and their heirs, executors, administrators and assigns covenant and agree with the said grantee, its successors and assigns, that the said grantor heirs, executors, administrators and assigns, will, from time to time, upon demand and payment as aforesaid, for the amount and part and parts of said surface demanded, execute and deliver unto the said grantee herein, its successors and assigns, a good and sufficient deed of GENERAL WARRANTY, conveying, in fee simple, free and clear of liens and encumbrances, such amount and such part and parts of the above described lands, as grantee, its successors and assigns, may from time to time demand; together with the further right to enter upon said land at any time for the purpose of testing for said coal.

And said grantors for themselves and for their heirs, executors, administrators and assigns, hereby waive and release any and all claims and demands which we may now or hereafter have, or claim to have, against said grantee, its successors and assigns, by reason of or in any way resulting from the removal of coal from, under and over said premises, or any part thereof.

**Item 4 – Deed rights to tract 1-1-91** - TOGETHER with the right in perpetuity of mining, taking out and removing such coal; also the further right in perpetuity to remove coal to and from any other land or lands through entries, shafts, air-ways and mine openings of any and every kind whatever, with the same rights, in removing coal to or from such other lands, to use the surface, entries, shafts, pits and other appliances for mining, upon, in, through, or under the lands herein described, as are herein granted for the mining and removal of the coal hereby conveyed;

Provided further, that said grantee, its successors and assigns, shall have the right to purchase, from time to time so much of and such part and parts of the surface over the aforesaid described coal rights as said grantee its successors and assigns, may desire and as may be necessary for pits, shafts, buildings, structures and appurtenances thereto, platforms, drifts, drains, reservoirs, roads, switches, side tracks, machinery and chutes, to facilitate the taking out mining and removing of such coal, paying therefor at the rate of One Hundred dollars (\$100) per acre. And the said grantors for themselves and their heirs, executors, administrators and assigns covenant and agree with the said grantee, its successors and assigns, that the said grantor heirs, executors, administrators and assigns, will, from time to time, upon demand and payment as aforesaid, for the amount and part and parts of said surface demanded, execute and deliver unto the said



grantee herein, its successors and assigns, a good and sufficient deed of GENERAL WARRANTY, conveying, in fee simple, free and clear of liens and encumbrances, such amount and such part and parts of the above described lands, as grantee, its successors and assigns, may from time to time demand; together with the further right to enter upon said land at any time for the purpose of testing for said coal.

And said grantors for themselves and for their heirs, executors, administrators and assigns, hereby waive and release any and all claims and demands which we may now or hereafter have, or claim to have, against said grantee, its successors and assigns, by reason of or in any way resulting from the removal of coal from, under and over said premises, or any part thereof.

**Item 5 – Deed rights to tract 1-1-92 & 1-1-93** - TOGETHER with the right in perpetuity of mining, taking out and removing such coal; also the further right in perpetuity to remove coal to and from any other land or lands through entries, shafts, air-ways and mine openings of any and every kind whatever, with the same rights, in removing coal to or from such other lands, to use the surface, entries, shafts, pits and other appliances for mining, upon, in, through, or under the lands herein described, as are herein granted for the mining and removal of the coal hereby conveyed;

Provided further, that said grantee, its successors and assigns, shall have the right to purchase, from time to time so much of and such part and parts of the surface over the aforesaid described coal rights as said grantee its successors and assigns, may desire and as may be necessary for pits, shafts, buildings, structures and appurtenances thereto, platforms, drifts, drains, reservoirs, roads, switches, side tracks, machinery and chutes, to facilitate the taking out mining and removing of such coal, paying therefor at the rate of One Hundred dollars (\$100) per acre. And the said grantors for themselves and their heirs, executors, administrators and assigns covenant and agree with the said grantee, its successors and assigns, that the said grantor heirs, executors, administrators and assigns, will, from time to time, upon demand and payment as aforesaid, for the amount and part and parts of said surface demanded, execute and deliver unto the said grantee herein, its successors and assigns, a good and sufficient deed of GENERAL WARRANTY, conveying, in fee simple, free and clear of liens and encumbrances, such amount and such part and parts of the above described lands, as grantee, its successors and assigns, may from time to time demand; together with the further right to enter upon said land at any time for the purpose of testing for said coal.

And said grantors for themselves and for their heirs, executors, administrators and assigns, hereby waive and release any and all claims and demands which we may now or hereafter have, or claim to have, against said grantee, its successors and assigns, by reason of or in any way resulting from the removal of coal from, under and over said premises, or any part thereof.

**Item 6 – Deed rights to tract 1-1-94** - TOGETHER with the right in perpetuity of mining, taking out and removing such coal; also the further right in perpetuity to remove coal to and from any other land or lands through entries, shafts, air-ways and mine openings of any and every kind whatever, with the same rights, in removing coal to or from such other lands, to use the surface, entries, shafts, pits and other appliances for mining, upon, in, through, or under the lands herein described, as are herein granted for the mining and removal of the coal hereby conveyed;

Provided further, that said grantee, its successors and assigns, shall have the right to purchase, from time to time so much of and such part and parts of the surface over the aforesaid described coal rights as said grantee its successors and assigns, may desire and as may be necessary for pits, shafts, buildings, structures and appurtenances thereto, platforms, drifts, drains, reservoirs, roads, switches, side tracks, machinery and chutes, to facilitate the taking out mining and removing of such coal, paying therefor at the rate of One Hundred dollars (\$100) per acre. And the said grantors for themselves and their heirs, executors, administrators and assigns covenant and agree with the said grantee, its successors and assigns, that the said grantor heirs, executors, administrators and assigns, will, from time to time, upon demand and payment as aforesaid, for the amount and part and parts of said surface demanded, execute and deliver unto the said grantee herein, its successors and assigns, a good and sufficient deed of GENERAL WARRANTY, conveying, in fee simple, free and clear of liens and encumbrances, such amount and such part and parts of the above described lands, as grantee, its successors and assigns, may from time to time demand; together with the further right to enter upon said land at any time for the purpose of testing for said coal.

And said grantors for themselves and for their heirs, executors, administrators and assigns, hereby waive and release any and all claims and demands which we may now or hereafter have, or claim to have, against said grantee, its successors and assigns, by reason of or in any way resulting from the removal of coal from, under and over said premises, or any part thereof.

**Item 7 – Deed rights to tract 1-1-95 & 1-1-96** - TOGETHER with the right in perpetuity of mining, taking out and removing such coal; also the further right in perpetuity to remove coal to and from any other land or lands through entries, shafts, air-ways and mine openings of any and every kind whatever, with the same rights, in removing coal to or from such other lands, to use the surface, entries, shafts, pits and other appliances for mining, upon, in, through, or under the lands herein described, as are herein granted for the mining and removal of the coal hereby conveyed;

Provided further, that said grantee, its successors and assigns, shall have the right to purchase, from time to time, so much of and such part and parts of the surface over the aforesaid described coal rights as said grantee, its successors and assigns, may desire and as may be necessary for pits, shafts, buildings, structures and appurtenances thereto, platforms, drifts, drains, reservoirs, roads, switches, side tracks, machinery and chutes, to facilitate the taking out, mining and removing of such coal, paying therefor at the rate of One Hundred dollars (\$100) per acre. And the said grantors, for themselves and their heirs, executors, administrators and assigns, covenant and agree with the said grantee, its successors and assigns that the said grantors, their heirs, executors, administrators and assigns, will, from time to time, upon demand and payment as aforesaid, for the amount and part and parts of said surface demanded, execute and deliver unto the said grantee herein its successors and

assigns, a good and sufficient deed of GENERAL WARRANTY, conveying, in fee simple, free and clear of liens and encumbrances, such amount and such part and parts of the above described lands, as grantee, its successors and assigns, may from time to time demand; together with the further right to enter upon said land at any time for the purpose of testing for said coal.

And said grantors for themselves and for their heirs, executors, administrators and assigns, hereby waive and release any and all claim and demands which they may now or hereafter have, or claim to have against said grantee, its successors and assigns, by reason of or in any way resulting from the removal of coal from under premises, or any part thereof.

- C. (9) (a) List below the following information for each surface owner of land within the proposed permit area. **N/A**

OWNER NAME	COUNTY	TOWNSHIP	SECTION	LOT	T-	R-

- C. (9) (b) List below the following information for each surface owner of land within the proposed underground workings.

OWNER NAME	COUNTY	TOWNSHIP	SECTION	LOT	T-	R-
D.W. Carlier	Belmont	Goshen	9		7	5
K.M. Levi	Belmont	Goshen	9		7	5
M.A. & S.L. Gossett	Belmont	Goshen	9		7	5
H.R. & C.P. Lane, etal	Belmont	Goshen	9		7	5
R.E. Conner	Belmont	Goshen	9		7	5
M.R. & R.A. McFarland	Belmont	Goshen	9		7	5
T.L. & V.M. Kemp	Belmont	Goshen	3 & 9		7	5
C.F. & K.P. Swallie	Belmont	Goshen	9		7	5
T. & L. Lucas	Belmont	Goshen	9		7	5
C.K. & K.A. Cole	Belmont	Goshen	9		7	5
R. Curry	Belmont	Goshen	9		7	5
K.S. & H.A. Cordner	Belmont	Goshen	9		7	5
J. & N. Gossett	Belmont	Goshen	9		7	5

D. AREAS WHERE MINING IS PROHIBITED OR LIMITED - Permit Area

- (1) Does the permit area included in this permit application include any area dedicated as a nature preserve pursuant to Chapter 1517., Ohio Revised Code? ☐ Yes, ☐ No. If "yes," submit proof of valid existing right.
- (2) Does the permit area included in this permit application include any area within one thousand feet of the waterlines of any wild, scenic, or recreational river dedicated pursuant to Chapter 1501., Ohio Revised Code? ☐ Yes, ☐ No. If "yes," submit proof of valid existing right.
- (3) Does the permit area included in this permit application include any area within the boundaries of the following systems: national park, national wildlife refuge, national trails, national wilderness preservation, national recreational areas, or wild and scenic rivers or river corridors, including those rivers under study? ☐ Yes, ☐ No. If "yes," submit proof of valid existing right.
- (4) Does the permit area included in this permit application include any federal lands within the boundaries of any national forest? ☐ Yes, ☐ No. If "yes," submit approval of the U.S. Secretary of Interior of proof of valid existing right.
- (5) Will operations in the permit area conducted under this permit adversely affect any publicly owned park or places included on the National Register of Historic Places? ☐ Yes, ☐ No. If "yes," submit joint approval from the chief and the federal, state, or local agency with jurisdiction over the park or places or proof of valid existing right.
- (6) Will operations in the permit area conducted under this permit affect land within one hundred feet of the outside right-of-way of a public roadway? ☐ Yes, ☐ No. If "yes," list the roadway(s) in the space below and submit Public Road Consent or proof of valid existing right.

**N/A – No Surface Permit Area**

- D. (7) Will operations in the permit area conducted under this permit affect land within three hundred feet of any occupied dwelling? ☐ Yes, ☐ No. If "yes," list the name of the owner(s) in the space below and submit Occupied Dwelling Consent or proof of valid existing right. **N/A**
- (8) Will operations in the permit area conducted under this permit affect land within three hundred feet of any public building, school, church, community or institutional building, or public park? ☐ Yes, ☐ No. If "yes," submit proof of valid existing right. **N/A**
- (9) Will operations in the permit area conducted under this permit affect land within one hundred feet of a cemetery? ☐ Yes, ☐ No. If "yes," submit proof of valid existing right or appropriate authorization to relocate the cemetery. **N/A**
- (10) Will operations conducted during this permit result in the extension of any part of the pit within fifty feet of horizontal distance to any adjacent land or water in which the applicant does not own either the surface or mineral rights? ☐ Yes, ☐ No. If "yes," list below the name(s) of the adjacent owner(s) and submit 50-foot Consent. **N/A**

E. **AREAS WHERE MINING IS PROHIBITED OR LIMITED - Permit and Shadow Area**

Are there areas within the proposed permit area, shadow area, or adjacent areas designated unsuitable for coal mining operations under rule 1501:13-3-07 of the Administrative Code or under study for designation in an administrative proceeding under this rule? ☐ Yes, ☒ No.

- (1) If "yes" to the item above, did the applicant make substantial legal and financial commitments in the proposed areas prior to January 4, 1977?  
☐ Yes, ☐ No.
- (2) If "yes" to item (1) above, submit as an addendum to the permit application information supporting the assertions that the commitments were made prior to January 4, 1977.

F. PERMIT TERM AND EXTENT - Permit and Underground Workings

- (1) Anticipated/actual date for:
  - (a) Starting mining operations 1/2008
  - (b) Terminating mining operations 1/2013
- (2) Does the applicant propose a permit term in excess of five (5) years? Yes, X No. If "yes," submit an addendum with the information required by 1501:13-4-03(E)(3), Ohio Administrative Code.
- (3) Indicate the following acreage figures:
  - (a) Total Acres 0.0 (Permit area)
  - (b) Total Acres 114.5 (Underground Workings)
- (4) Horizontal extent of underground workings over life of permit in acres:
  - (a) Full Coal Recovery 114.5
  - (b) Room and Pillar 0.0

G. PUBLIC NOTICE - Permit and Shadow Area

- (1) In the space below, provide the name and address of the public office where a complete copy of this permit application is to be filed.  
**RECORDER'S OFFICE  
BELMONT COUNTY COURTHOUSE  
101 WEST MAIN STREET  
ST. CLAIRSVILLE, OHIO 43950**
- (2) In the space below, list the name and address of the newspaper and submit an addendum providing the text of the advertisement that is to be published in a newspaper of general circulation in the locality of the proposed operation. Note: The advertisement is to provide the information required by paragraph (A) of rule 1501:13-5-01 of the Administrative Code.

**THE TIMES LEADER  
200 S. FOURTH ST.  
MARTINS FERRY, OH 43935**

**SEE ADDENDUM TO PAGE 14, G(2)**



THE OHIO VALLEY COAL COMPANY  
POWHATAN NO. 6 MINE  
PERMIT D-0360  
ADDENDUM TO PAGE 14, (G)(2)

**Public Notice**

The Ohio Valley Coal Company, Powhatan No. 6 Mine, 56854 Pleasant Ridge Road, Alledonia, Ohio 43902, has submitted an underground coal mining application for Permit D-0360, designated as D-0360-18 to the Ohio Department of Natural Resources, Division of Mineral Resources Management. The proposed additional underground acreage for Permit D-0360 is located in Belmont County, Goshen Township, Sections 3 and 9. The area is located on the Hunter, Ohio 7 ½ minute USGS quadrangle map, approximately 3 miles west of Centerville, Ohio. The proposed underground workings encompass 114.5 acres (total application acreage), all of which will be mined using full coal recovery methods.

This application is on file at the Recorder's Office, Belmont County Court House, 101 West Main Street, St. Clairsville, Ohio for public viewing. Written comments or requests for an informal conference may be sent to the Division of Mineral Resources Management, 2045 Morse Road, Building H-3, Columbus OH 43229-6693 within thirty days of the last date of publication of this notice.

**PART 2 ENVIRONMENTAL RESOURCES INFORMATION**

**A. CULTURAL, HISTORIC, AND ARCHEOLOGICAL INFORMATION - Permit and Planned Subsidence Area**

- (1) Are there any cultural or historic resources or structures listed or eligible for listing on the National Register of Historic Places within the proposed permit or planned subsidence area? \_\_\_ Yes, X No. If "yes," submit an addendum describing the resources and structures including the location and submit Archeology-Surface or Archeology-Underground as appropriate.
- (2) Are there any known archeological sites within the proposed permit or planned subsidence area? \_\_\_ Yes, X No. If "yes," submit an addendum describing the site including the location and submit Archeology-Surface or Archeology-Underground as appropriate.
- (3) If applicable, based upon the review of the proposed planned subsidence areas and the completed Archeology-Underground for the initial six months of projected mining, have any properties listed or eligible for listing on the National Register of Historic Places been identified? \_\_\_ Yes, X No. If "yes," submit an addendum listing each property identified.
- (4) Submit an addendum indicating the method to be used to identify historic properties on planned subsidence areas as mining progresses.  
**SEE ADDENDUM TO PAGE 15, A(4)**

**B. GEOLOGY DESCRIPTION - Permit and Shadow Area**

- (1) Submit an addendum describing the geology within the proposed permit area and shadow area down to and including the first stratum below the lowest coal seam to be mined or any aquifer below the lowest coal seam to be mined which may be adversely affected by mining. The description shall also include information on the areal and structural geology of the permit and shadow area and any other geologic parameters, which may influence the probable hydrologic consequences and protection of the hydrologic balance from material damage outside of the permit area.  
**SEE ADDENDUM TO PAGE 15, B(1)**
- (2) Submit an addendum describing how the areal and structural geology may affect the occurrence, availability, movement, quantity, and quality of potentially affected surface and ground waters per paragraph (C) of rule 1501:13-4-13 of the Administrative Code.  
**SEE ADDENDUM TO PAGE 15, B(2)**

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

ARCHEOLOGY-UNDERGROUND

1. Applicant's Name: **The Ohio Valley Coal Company**  
Permit No: **D-0360-18**  
Address: **56854 Pleasant Ridge Road**  
City: **Alliedonia** State: **Ohio** Zip Code: **43902**
2. Contact Person: **Dave Bartsch** Phone: **740-926-1351**
3. Location and Acreage Information:  
County: **Belmont** Township: **Goshen**  
Section(s)/Lot(s): **3 & 9 T- 7, R-5**  
USGS Quadrangle: **Hunter** Acreage: **114.5**
4. Full Coal Recovery Area Map Attached: (USGS Quadrangle with full coal recover are delineated).
5. Historic and Prehistoric Structures:

Definitions:

A historic or prehistoric structure is a work made up on interdependent and interrelated parts in a definite pattern of organization. Constructed by humans, and 50 years or older, it is usually an engineering project.

Types:

Historic structures include, but are not limited to dwellings, buildings, barns, farmstead outbuildings, bridges, culverts, churches, schools, halls, iron furnaces (and associated buildings), canals, forts, abandoned coal mine buildings, mine entrances, tipples and related structures, etc.

Prehistoric structures include, but are not limited to, earthworks and mounds.

List all known historic and prehistoric structures below **and** locate each on the map to be sent to the SHPO **including** corresponding labeled back and front and rear photographs of each structure. Attach addendum, if necessary.

Structure Type	Construction Date	Map Reference	Photo No. Front	Photo No. Rear
See Attached Addenda to Archeology - Underground				

6. Previous historic and/or archeological surveys: (describe any surveys known to applicant on the planned subsidence areas)

None

7. SHPO please send this form to:

Ohio Department of Natural Resources  
Division of Mineral Resources Management  
Attn: Archeologist  
2045 Morse Road, Building H-3  
Columbus, Ohio 43229-6693

### FOR USE BY THE STATE HISTORIC PRESERVATION OFFICE ONLY

(check appropriate space)

- A. ☒ This is a recommendation for an archeological survey of the application based on the following reasons (attach addendum, if necessary):

A SHPO review of the area shown on the application map has provided a listing below of all known historic and prehistoric properties listed and eligible for listing on the "National Register of Historic Places" and known historic and prehistoric sites on the application area and adjacent areas (in a 1.5 mile radius). The listing includes, when appropriate, those historic and prehistoric structures identified by the applicant in items 5 and 6 above.

#### Listed and Eligible National Register Sites

Site Name (#)	Type	Application Area	Adjacent Area

#### Known Historic and Prehistoric Sites

Site Name (#)	Type	Application Area	Adjacent Area

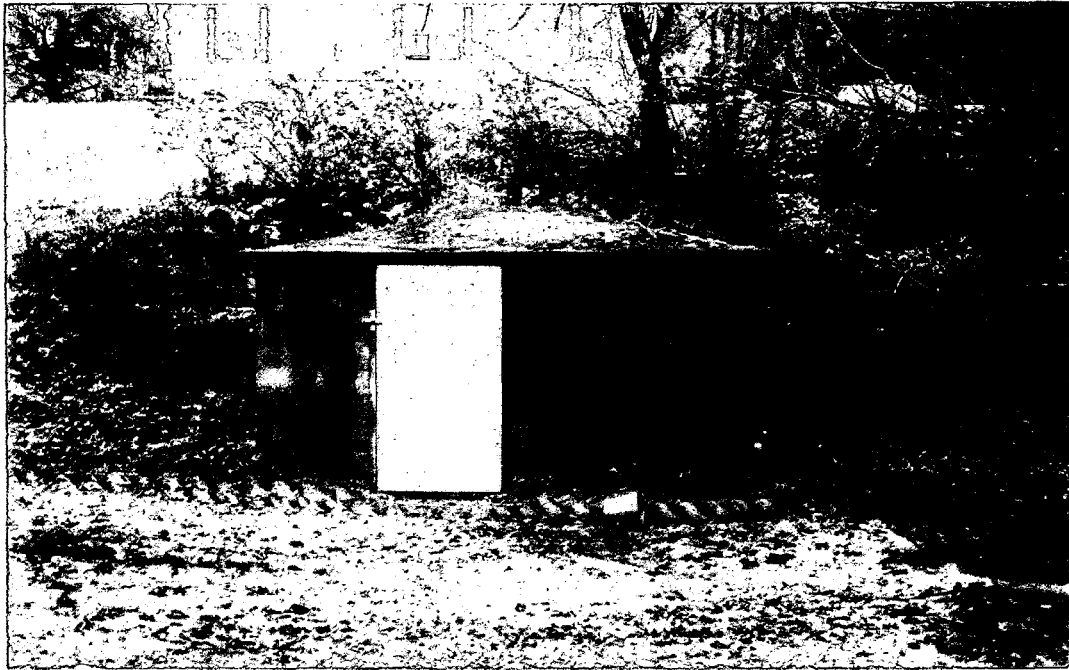

- B. ☒ A SHPO review of the area shown on the application map and information contained in this form finds that the proposed mining does not have a reasonable probability of affecting any properties listed or eligible for listing on the "National Register of Historic Places." Therefore, no further coordination will be necessary with this office unless the scope of the application area changes.

State Historic Preservation Officer \_\_\_\_\_

SHPO # \_\_\_\_\_

Date \_\_\_\_\_





7-43 SPRING HOUSE FRONT

8-44 RUINS FRONT





16-104 CHICKEN COUP 1 FRONT

16-105 CHICKEN COUP 1 BACK







16-106 MACHINE SHED FRONT

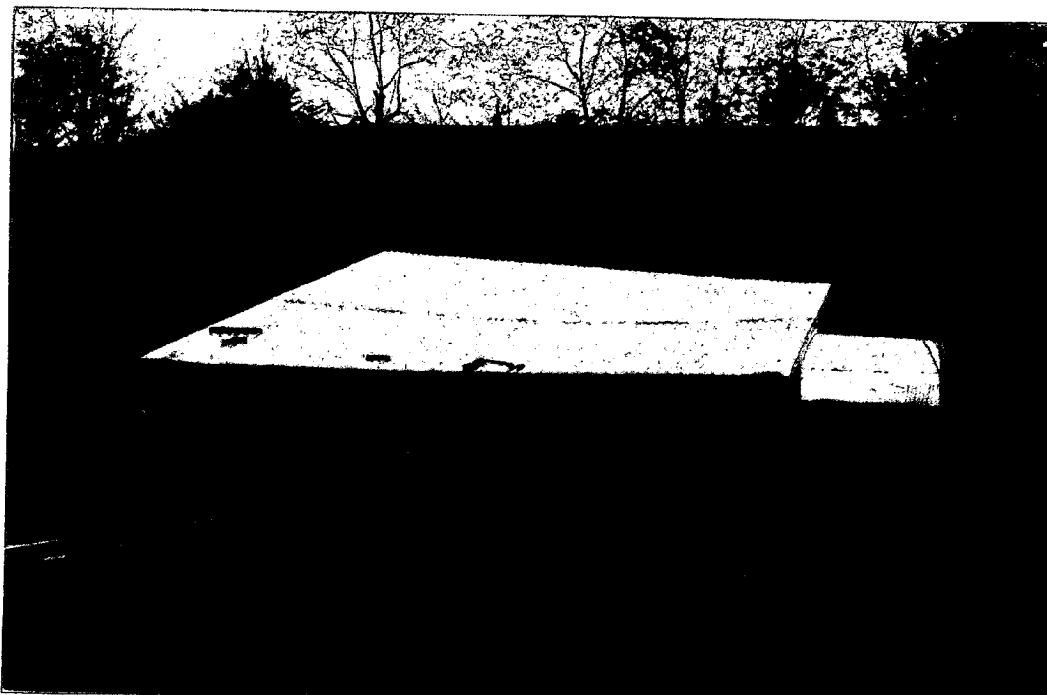
16-107 MACHINE SHED BACK





16-116 CHICKEN COUP 3 FRONT

16-117 CHICKEN COUP 3 BACK





16-120 OUTBUILDING 3 FRONT

16-121 OUTBUILDING 3 BACK





16-122 SPRING HOUSE FRONT

16-123 SPRING HOUSE BACK





16-124 GARAGE FRONT

16-125 GARAGE BACK



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ADDENDUM TO PAGE 15, (A)(4)

PROCESS USED TO IDENTIFY ELIGIBLE AND LISTED NATIONAL REGISTER OF  
HISTORIC PLACES DURING FULL COAL RECOVERY MINING OPERATIONS

Potential historic properties have been identified in the application. Properties that are deemed eligible for listing on the National Register for Historic Places (National Register) will be identified by the SHPO and will be noted as such by OVCC. As mining progresses, OVCC will identify properties to be undermined and proper mitigative efforts will be implemented. These steps will be followed:

1. The applicant will complete the underground archaeology form on all structures 50 years or older, not as indicated the old Attachment 27A, and applicant will complete the surface archaeology form prior to any surface affectment or surface repair.
2. The applicant will provide clear photographic documentation for all prehistoric and historic structures 50 years or older and identify their locations on the application map.
3. The applicant will submit two copies of the archaeology form(s), including photographs and map to the Division.
4. The Division archaeologist will perform completeness review of survey report in the field to insure all historic structures have been documented.
5. The Division will send report (revised or original if no revisions are necessary) to the Ohio Historic Preservation Office (OHPO) for comment.
6. If eligible National Register properties are identified by OHPO, the applicant will provide mitigation plans, prior to undermining the eligible property that will outline the procedures for prevention or minimization from the adverse effects of mining to the properties deemed eligible for inclusion on the National Register.
7. Prior to making surface repairs, including access route construction to the repair site on eligible or listed National Register historic properties for damage caused by subsidence or associated mining operations, the applicant will first coordinate with the Division who will then coordinate with the Ohio Historic Preservation Office for comment. The Division will then inform the applicant whether a.) Further coordination is necessary prior to such repairs, i.e., Phase 1 archaeology survey or b.) No additional research is required prior to the applicant repairing the land surface.

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ADDENDUM TO PAGE 15, B(1)

### GEOLOGY DESCRIPTION

The Monongahela formation of the Pennsylvania period, and the Dunkard group of Permian time form the stratigraphy of the proposed application area. The primary stratum of both sections consists of an alternating sequence of limestone, sandstone, siltstone, shale, claystone, and coal. Within the application area "hard rock" (limestone and sandstone) forms 18 to 74 percent of the overburden. The significance of "hard rock" and "soft rock" is discussed in the publication "Surface Subsidence Engineering, by Syd S. Peng, and published by the Society for Mining Metallurgy and Exploration on pages 6, 7, and 8 and is included in the test hole records as required by ODNR.

The Monongahela Formation averages 245 feet in thickness within the application area. The base of the formation is defined as the Pittsburgh No. 8-coal bed and the top is defined as the Waynesburg No. 11-coal bed. The primary rock units within the formation are shale, sandy shale, claystone, limey claystone, limey shale, and limestone. Hard rock typically forms between 45 to 65 percent of this interval, although there is some variation within the area in this estimate.

The Dunkard group is 250 to 300 feet thick, occupying the interval from the Waynesburg No. 11 coal seam to the ground surface. The primary rock units here are shale and claystone with modest amounts of sandy shale, limey shale and limestone. These "soft rock" units typically form as much as 85 percent of this stratigraphic interval, although there is also some lateral variation in this value.

The rock strata of Belmont County typically form a gentle monocline that dips southeasterly at grades less than one percent (Figure 2) and in the application area is southward to southeasterly. The base elevation of the No. 8 seam ranges from approximately 770 ft in the southeast corner of the application area to approximately 830 ft in the northwest corner. The high and low cover areas are shown on the application map and range from 240 ft in the south central portion to over 540 ft in the west central portion of the application area.

The orientation of the major joints in rock and face cleat in coal is approximately N 75° W. The minor joints and butt cleats are generally perpendicular to these (N 15° E).

Geology and Coal Resources of Belmont County, Ohio, Geological Survey Professional Paper 380, reports that a small dome-shaped anticline lies in eastern Belmont County, primarily in Mead Township. This structure is located over three miles east of the Powhatan No. 6 Mine and, therefore, is not expected to have an impact on ground water flow in the application area.

There is a graben structure that passes through the Powhatan No. 6 Mine reserve. This graben has been mapped through the adjacent Powhatan No. 3 Mine and enters the No. 6 reserve on the





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ADDENDUM TO PAGE 15, B(1)

eastern boundary. It has been located through an extensive drilling program. The fault is located to the west and south of the proposed application area, and is not expected to have an impact on mining in this area. A description of the fault may be found in the geology narrative for the D-0360-17 approved application area.

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ADDENDUM TO PART 2, PAGE 15, B(1)

Potential for Surface Water Discharge

The potential for surface water discharge from this proposed application area is remote. The minimum depth of cover in the application area is approximately 244 ft. At this location, the elevation of the coal seam is 763 to 840 ft. For water to discharge from the mine into streams above this proposed application area, the water in the mine would have to reach an elevation of 1010 to 1020 to discharge to the surface. Mining is not planned to go to this elevation at this mine.

The lowest surface opening in the mine is at elevation 847. Therefore, mining in this area will not cause surface discharge.

The lowest surface elevation over the mine is 760 ft msl. The location of this low area is near Armstrong Mills. At this location, the coal seam is at an elevation of 670 ft msl. The lowest cover area of the mine has approximately 80 ft of cover, just west of Armstrong Mills. These areas are room-and-pillar mining areas, where there has been no subsidence of the strata over the mine. Yet, the potential to discharge exists at the No. 6 Mine.

Because there is a potential to discharge through the strata, OVCC has examined another nearby mine, also located in the Pittsburgh Seam of coal. The Oglebay Norton Company operated the Norton No. 3 Mine (Ohio ID No. BT-68) from 1953 to 1972. This mine was a room-and-pillar operation and is located 7200 ft east of the No. 6 Mine.

The surface openings are at elevation 730.5. The lowest surface area over the mine is just below 700 ft msl. The lowest cover over the mine is 60 ft. The underground openings are at elevation 669 ft msl at the airshaft near Captina Creek. Over the entire mine, the bottom elevation varies from 652 ft msl to 792 ft msl. This mine has the potential to discharge into Captina Creek and to discharge through the surface openings. However, the mine pool in this mine does not rise above elevation 701 ft msl. Since early 2005, monitoring wells finished just above the mine have measured groundwater above the mine. The quality of the water in these monitoring wells generally meets effluent limitations (pH - 6 to 9 SU; Iron - 3.5 mg/l; Manganese - 2 mg/l; Total Suspended Solids - 35 mg/l). This mine is not discharging into Captina Creek, but if it did, the water could meet effluent limitations.

Based on the experience at the Norton No. 3 Mine, although there is the potential to discharge, no discharge will likely occur at the Powhatan No. 6 Mine, but if it does, the water could meet effluent limitations.

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ADDENDUM TO PAGE 16, B(2))

Geological Impact of Proposed Operation On Ground Water

The geological impact of coal removal, according to the PHC, is expected to vary from short term to long term. The Pittsburgh (No. 8) coal seam will be mined, and in this area has dip of approximately 30 ft per mile to the southeast, with the strike to the northeast. Ground water occurs in this area in several disconnected saturated zones associated with the occurrence of the coal seams and underlying clay stone units that prevent downward migration of the ground water. Ground water is generally limited to within the first 100 ft of the surface. Since primary porosity in the rock units is poor, nearly all of the ground water in this area of Ohio occurs as secondary porosity in the joints, cleats, fractures, and bedding planes of the rocks.

Partial-recovery operations are not expected to impact ground water. For full-coal recovery operations: As longwall mining progresses, a caved area occurs immediately over the coal seam mined. Above this area, fractures occur in hard rocks and extend upward to about 200 ft above the coal seam. In the area above these fractures, a zone known as the continuous deformation zone develops where the rocks bend down and form the classic subsidence basin. In the center of the basin, rocks are put into compression, while there are areas of tension from the gate entries inward for a short distance and outside the basin for a short distance. As the mining occurs, the rocks may be fractured and bedding planes may open as a result of this deformation. This process provides new openings to contain additional ground water, resulting in a lowering of the phreatic surface of the water in the area. Clay units deform and do not fracture, and continue to preclude water from entering the mine. After mining, the aquifers are more connected and provide a larger source of water for well recharge. Ground water in wells usually drops, and may be found lower in the well or even beneath the bottom of the well. Springs generally move downhill after full-recovery mining.

The Powhatan No. 6 Mine is virtually a dry mine; with little pumping of water to the outside, with deformation and little cracking of the soft rocks accounting for the dry conditions in the mine. Generally speaking, ground or surface water does not enter the No. 6 Mine.

In summary, the coal removal is expected to have some impact ground water in the application area. The impacts are described in the PHC and in the Addendum to Page 17 F(1).

- B. (3) For those areas to be affected by underground mining surface operations where removal of the overburden down to the level of the coal seam will occur, submit Drilling Report - Surface(s) as required by paragraphs (C)(2)(a) and (c) of rule 1501:13-4-13 of the Administrative Code.

N/A

- (4) For those areas within the shadow area where the stratum above the coal seam to be mined will not be removed, submit Drilling Report - Underground(s) as required by paragraphs (C)(2)(d) and (e) of rule 1501:13-4-13 of the Administrative Code.

**SEE TEST HOLE VARIANCE REQUEST**

C. **GROUND WATER INFORMATION - Permit, Shadow Area, and Adjacent Area**

- (1) Submit Ground Water Description that describes the ground water hydrology of the proposed permit area, shadow area and adjacent area. The Ground Water Description is to include information on each water bearing stratum or zone as required by paragraph (D) of rule 1501:13-4-13 of the Administrative Code, including the first water bearing stratum below the coal to be mined.

**SEE GROUND WATER DESCRIPTION**

- (2) Are there any wells on the proposed permit area, shadow area and adjacent area? ☒ Yes, ☐ No. If "yes," submit Hydrologic Inventory.

**SEE HYDROLOGIC INVENTORY**

- (3) Are there any springs on the proposed permit area, or developed springs on the shadow area and adjacent area? ☒ Yes, ☐ No. If "yes," submit Hydrologic Inventory.

**SEE HYDROLOGIC INVENTORY**

- (4) Are there any public water supply sources on the proposed permit area, shadow area, and adjacent area? ☐ Yes, ☒ No. If "yes," submit Hydrologic Inventory, and show location on the hydrology map.

**SEE HYDROLOGIC INVENTORY**

- (5) Submit Hydrologic Inventory for representative wells and developed springs as required by paragraph (D)(4) of rule 1501:13-4-13. Based on this data identify the seasonal variations of ground water quality and quantity.

**SEE HYDROLOGIC INVENTORY**

D. **SURFACE WATER INFORMATION - Permit, Shadow Area, and Adjacent Area**

- (1) List the name of the watershed that will receive water discharges from the proposed permit, shadow, and adjacent areas as listed in the "Gazetteer of Ohio Streams" published by the Ohio Department of Natural Resources.

**CAPTINA CREEK**

- (2) Are there any perennial or intermittent streams or other surface water bodies on the proposed permit, shadow area and adjacent area? ☒ Yes, ☐ No. If "yes," submit Hydrologic Inventory and show location on application and hydrology map.



# Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

## Ohio Department of Natural Resources Division of Mineral Resources Management

*John F. Husted, Chief*

2045 Morse Road, Building H-3

Columbus, Ohio 43229-6693

Phone: (614) 265-6633 Fax: (614) 265-7999

October 23, 2007

The Ohio Valley Coal Company  
56854 Pleasant Ridge Road  
Alledonia, Ohio 43902

Attention: David Bartsch

Dear Mr. Bartsch,

As provided for in The Ohio Administrative Code, Rule 1501:13-4-13 (C) (3), Ohio Valley Coal Company, a waiver for geological information has been submitted for a proposed 114.5 acre Adjacent Area Application to be submitted in the near future for full coal recovery. The application, which has not been submitted, will succeed permit D-360-17.

As stated within the test hole variance request: Five test holes (4 with acid base data) from the area and around the application area will be submitted with the application; A map will be provided showing all existing test holes, with their surface and coal elevations, and structure contours; Two cross-sections will be submitted; one along the strike and the other along the dip; A general discussion of similar geology will be provided as reference in item #4 of the waiver; and a geology narrative specifically describing the area will be included in this application.

With the submittal of the information referenced in the waiver request, the waiver is hereby approved. If my staff or I may be of additional assistance in this regard, do not hesitate to contact me at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "John F. Husted", is written over a horizontal line.

John F. Husted, Chief  
Division of Mineral Resources Management

JFH:vt

2045 Morse Road • Columbus, OH 43229-6693

[ohiodnr.com](http://ohiodnr.com)



TOVCC 13000



ADDENDUM TO PART 26, PAGE 16, ITEM C(1), T.O.V.C.C.

## Ohio Department of Natural Resources

BOB TAFT, GOVERNOR

SAMUEL W. SPECK, DIRECTOR

Division of Water

Richard S. Bartz • Chief

Date: December 19, 2005

### ANALYSIS OF EXISTING GROUND WATER FILE DATA

Prepared By: Bill Haiker, Hydrogeologist *OH*

Operator: Ohio Valley Coal Company

County: Belmont

Township: Goshen; Smith

Section(s): 2,3,4,8,9,10,14,15,16,20,21,22; 32,33,34,35

Number of water well logs within 1,000 foot radius of site (copies attached): 18 Field located: 18

#### General description of local hydrology:

Ground water is obtained from interbedded shale, limestone, and sandstone bedrock. Well depths can range from 50 to 200 feet with initial yields of less than 1 to 15 gallons per minute. Long-term yields seldom exceed 3 gallons per minute.

#### Areas of particular concern:

Longwall mining the #8 coal seam at an elevation of approximately 845 feet MSL could adversely affect wells within the hydrologic boundary. All wells should be located and monitored as a precautionary measure.

# WELL LOG AND DRILLING REPORT

NO CARBON PAPER  
NECESSARY -  
SELF-TRANSCRIBING

State of Ohio  
DEPARTMENT OF NATURAL RESOURCES  
Division of Water  
Fountain Square  
Columbus, Ohio 43224

WE731  
600152

COUNTY Belmont TOWNSHIP Goshen SECTION OF TOWNSHIP Sec 9  
OWNER R&F Coal Co. ADDRESS N. Main St. Ext. Cadiz, OH 43907  
LOCATION OF PROPERTY 1.5 mile south of T-200 on T-195

## CONSTRUCTION DETAILS

Casing diameter 6" Length of casing 130'  
Type of screen \_\_\_\_\_ Length of screen 20'  
Type of pump Not Completed  
Capacity of pump \_\_\_\_\_  
Depth of pump setting \_\_\_\_\_  
Date of completion \_\_\_\_\_

## BAILING OR PUMPING TEST

(specify one by circling)

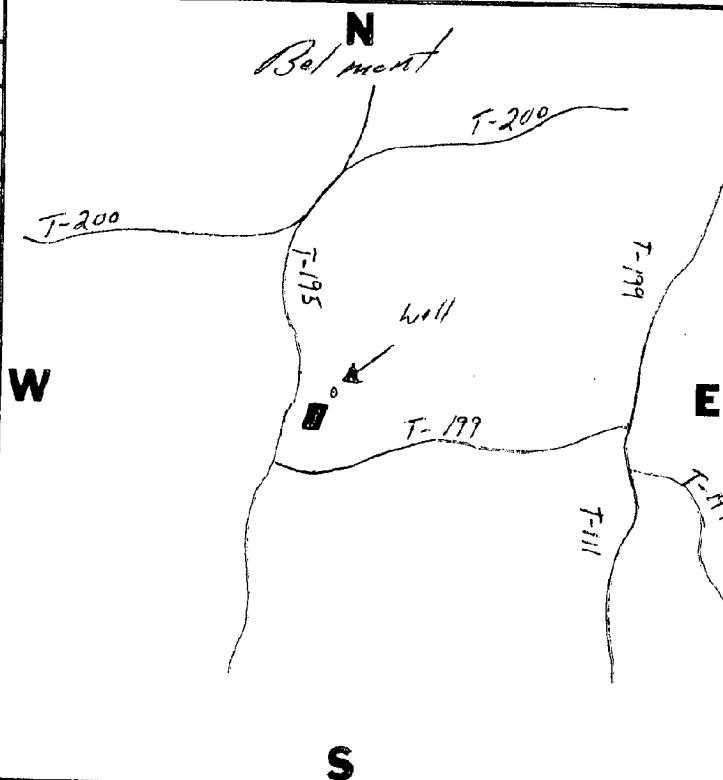
Test rate 10 gpm Duration of test 3 hr  
Drawdown Complete ft Date 7-12-81  
Static level (depth to water) 75' ft  
Quality (clear, cloudy, taste, odor) Clear  
Pump installed by \_\_\_\_\_

## WELL LOG\*

Formations: sandstone, shale, limestone, gravel, clay	From	To
<u>Sandstone</u>	0 ft	15 ft
<u>Clay</u>	15	19
<u>Limestone</u>	19	25
<u>Sandstone</u>	25	28
<u>Coal</u>	28	30.5
<u>Clay</u>	30.5	34
<u>Limestone</u>	34	40
<u>Gray Sandstone</u>	40	44
<u>Light Brown Sandstone</u>	44	50
<u>Shale</u>	50	60
<u>Dark Sandstone</u>	60	75
<u>Shale</u>	75	80
<u>Sandstone</u>	80	130

## SKETCH SHOWING LOCATION

Locate in reference to numbered  
state highways, street intersections, county roads, etc.



DRILLING FIRM R&F Coal Co.

DATE 7-20-81

ADDRESS N. Main St. Ext. Cadiz, OH

SIGNED Jack H. Stang / R&F Coal Co.

\*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER. FOUNTAIN SQ COLUMBUS OHIO 43224

TOVCC 13002

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

GROUND WATER DESCRIPTION

Applicant's Name **The Ohio Valley Coal Company**

**D-0360-18**

Aquifer/Zone Identification	Aquifer/Zone Lithology	Aquifer/Zone Thickness	Aquifer/Zone Elev. (msl)	Aquifer/Zone Horizontal Extent	Aquifer/Zone Known Uses	Approximate Rate of Discharge of Aquifer/Zone (gpm or cps)
(A) Unconsolidated Material	Silt, Sand, & Gravel Weathered Bedrock	Up to 30 Feet	1030 to 1360 msl	Sand & Gravel Primarily along stream valleys Weathered Bedrock Throughout appli- area	Domestic	Variable-Generally <2 to >20 gpm
(B) Washington No. 12 Cyclothem	Silt, Sandstone, Limestone, Coal	Up to 150 feet	1100 to 1340 msl	Local-Primarily where less than 100 feet dip	Domestic/Livestock	Variable-Generally less than 2 gpm
(C) Waynesburg No. 11 Cyclothem	Silt, Sandstone, Limestone, Coal	Approximately 100 feet	1000 to 1190 msl	Local-Primarily where less than 100 feet deep	Domestic Livestock	Variable-Generally less than 2 gpm
(D) Sewickley No. 9 Cyclothem	Silt, Sandstone, Limestone, Coal	Approximately 120 feet	840 to 1090 msl	Local-Primarily where less than 100 feet deep	Domestic	Variable-Generally less than 2 gpm



**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

Page 1

**HYDROLOGIC INVENTORY**

Applicant's Name The Ohio Valley Coal Company

Area -18

1	I.D. No. of Sampling Site from Hydrology Map	WL-731			DS-423	U38-002A	D38-002A
2	State Plane X-Y Coordinates	X 2,376,782 Y 727,753			X 2,381,082 Y 723,776	X 2,376,395 Y 727,754	X 2,376,471 Y 724,515
3	Surface Elevation (ft msl)	1100			1160	1055	1039
4	Depth of Well Below Land Surface (feet)*	130			--	--	--
5	SWL of Well Below Land Surface (ft) *	37	41	37	--	--	--
6	Discharge for Spring, Stream, Pond, Mine, etc. (gpm or cfs)	--	--	--	0.23 GPM	0.15 CFS	0.9 CFS
7	Date Measured/Sampled**	07-17-03	10-03-03	02-19-04	10-16-07	10-16-07	10-16-07
8	pH (Standard Units)	7.1	7.3	8.8	6.7	7.6	7.9
9	Total Acidity (mg/l CaCO <sub>3</sub> )	15	16	20	18	5.8	<0.16
10	Total Alkalinity (mg/l CaCO <sub>3</sub> ) <sup>1</sup>	180	200	140	200	190	190
11	Total Iron (mg/l)	5.1	1.5	0.28	0.39	0.26	0.15
12	Total Manganese (mg/l)	1.7	0.45	0.12	0.29	0.31	0.13
13	Total Aluminum (mg/l)	--	--	--	0.07	0.23	0.17
14	Total Suspended Solids (mg/l)	37	1.0	<1.0	<0.87	<0.87	<0.87
15	Total Hardness (mg/l as CaCO <sub>3</sub> )	370	360	310	230	310	310
16	Total Sulfates (mg/l)	170	160	240	35	110	100
17	Specific Conductivity (umhos/cm at 25° C)***	650	730	610	540	800	760
18	Total Dissolved Solids (mg/l)***	--	--	--	--	--	--
19	Type of Supply For Surface and Public Water (pond, perennial/intermittent stream, etc.)	--	--	--	--	Intermittent	Intermittent
20	High (H), Low (L), or Intermediate (I)	I	L	H	Supplemental		
21	Date of Last Precipitation	07-15-03	10-01-03	02-06-04	10-10-07	10-10-07	10-10-07
22	Aquifer/Zone I.D. for Ground Water *	C			C	--	
23	Known Uses	DOMESTIC			LIVESTOCK	LIVESTOCK	LIVESTOCK
24	Lab ID Number	0307199	0310022	0402297	0710314	0710310	0710312
25	Name of Owner	D. W. Carlier			T.L. & V.M. Kemp	M.R. & R.A. McFarland	

\* Note: If information required by items 4, 5, or 21 is unobtainable, submit as an addendum to Hydrologic Inventory a statement giving the reasons why the information is unobtainable.

\*\* Note: All sites must be measured, unless unobtainable. For all sites that are not sampled, indicate "NS" (No Sample) in the appropriate space.

\*\*\* Note: For each sample, provide data for either item 16 or item 17.

Revised 11/05  
DNR-744-9024

TOVCC 13004

**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

Page 2

**HYDROLOGIC INVENTORY**

Applicant's Name The Ohio Valley Coal Company

Area -18

1	I.D. No. of Sampling Site from Hydrology Map	D38-002B	D38-002C				
2	State Plane X-Y Coordinates	X 2,379,151 Y 723,982	X 2,381,130 Y 723,643				
3	Surface Elevation (ft msl)	1090	1155				
4	Depth of Well Below Land Surface (feet)*	--	--				
5	SWL of Well Below Land Surface (ft) *	--	--				
6	Discharge for Spring, Stream, Pond, Mine, etc. (gpm or cfs)	0.005 CFS	0.001 CFS				
7	Date Measured/Sampled**	10-16-07	10-16-07				
8	pH (Standard Units)	7.9	8.4				
9	Total Acidity (mg/l CaCO <sub>3</sub> )	<0.16	2.1				
10	Total Alkalinity (mg/l CaCO <sub>3</sub> ) <sup>1</sup>	220	230				
11	Total Iron (mg/l)	0.75	2.6				
12	Total Manganese (mg/l)	0.16	0.64				
13	Total Aluminum (mg/l)	0.51	0.77				
14	Total Suspended Solids (mg/l)	18	53				
15	Total Hardness (mg/l as CaCO <sub>3</sub> )	250	280				
16	Total Sulfates (mg/l)	27	41				
17	Specific Conductivity (umhos/cm at 25° C)***	580	700				
18	Total Dissolved Solids (mg/l)***	--	--				
19	Type of Supply For Surface and Public Water (pond, perennial/intermittent stream, etc.)	Intermittent	Intermittent				
20	High (H), Low (L), or Intermediate (I)	Supplemental					
21	Date of Last Precipitation	10-10-07	10-01-03				
22	Aquifer/Zone I.D. for Ground Water *	--	--				
23	Known Uses	None	Livestock				
24	Lab ID Number	0710313	0710315				
25	Name of Owner	K.S. & H.A. Cordner	T.L. & V.M. Kemp				

\* Note: If information required by items 4, 5, or 21 is unobtainable, submit as an addendum to Hydrologic Inventory a statement giving the reasons why the information is unobtainable.

\*\* Note: All sites must be measured, unless unobtainable. For all sites that are not sampled, indicate "NS" (No Sample) in the appropriate space.

\*\*\* Note: For each sample, provide data for either item 16 or item 17.

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DNR-744-9024

TOVCC 13005



- D. (3) Based on the data listed on Hydrologic Inventory, and other information submitted with this application, identify the seasonal variations in water quality and quantity for the streams identified in Part 2, D (2).  
**SEE ADDENDUM TO PAGE 17, D(3)**

E. **HYDROLOGIC DETERMINATION - Permit, Shadow Area, and Adjacent Area**

Based on the information submitted in response to items B, C and D in this part of the permit application, submit an addendum describing the probable hydrologic consequences of this proposed underground mining operation on the hydrologic regime of the proposed permit area, shadow area and adjacent area. The description shall include findings on each of the following items:

- (1) The consequences of the proposed operation on the contents of total suspended and dissolved solids, total iron, total manganese, acidity and pH;
- (2) Whether adverse impacts may occur to the hydrologic balance; and
- (3) The impact the proposed operation will have on:
  - (a) Sediment yield from the disturbed area
  - (b) Flooding and stream flow alteration or diminution
  - (c) Ground water and surface water availability

**SEE ADDENDUM TO PAGE 17, E (1-3) – HYDROLOGIC DETERMINATION**

F. **ALTERNATIVE WATER SUPPLY INFORMATION - Permit, Shadow Area and Adjacent Area**

- (1) Based on the response in Part 2, item E, submit an addendum identifying the extent to which the proposed coal mining activities may proximately result in contamination, diminution or interruption of an underground or surface source of water within the proposed permit area, shadow area and adjacent area that is used for domestic, agricultural, industrial or other legitimate use.

**SEE ADDENDUM TO PAGE 17, F(1)**

- (2) If contamination, diminution or interruption may result, submit an addendum identifying the alternative sources of water supply that could be developed to replace the existing sources including information on water availability and suitability of alternative sources for existing pre-mining uses and post-mining land use.

**SEE ADDENDUM TO PAGE 17, F(2)**

THE OHIO VALLEY COAL COMPANY  
POWHATAN NO. 6 MINE  
PERMIT D-0360  
ADDENDUM TO PAGE 17, D (3)

#### SEASONAL VARIATIONS OF WATER QUALITY AND QUANTITY

Surface and groundwater data contained in the hydrologic inventory forms included with this application indicate the seasonal variances of quality and quantity of the water in this area.

The water wells existing in the area give a fairly representative indication of the near surface water bearing zones that can be found in this region. The Probable Hydrologic Consequences of mining gives a detailed description of these characteristics.

Precipitation is one of the principal factors influencing water systems. Infiltration of precipitation increases soil moisture and influences groundwater chemical composition. The time required for infiltrating precipitation to reach lower water bearing zones increases with increasing depth. Depending on the morphological structure, character of surface vegetation, and intensity of precipitation the amounts of infiltration also vary greatly. Amounts of infiltration subsequently influences the dissolved solids contents of groundwater, which, in most cases, become more dilute during periods of prolonged precipitation. Rainfall data collected at or near the Powhatan No. 6 Mine has been included in this application.

In general, the data will show that an increased water quantity and a decrease in chemical constituent levels is realized during times of increased precipitation and snow melt of winter and spring seasons; while a decrease in water quantity and increase in chemical constituent levels is realized in dry summer and early autumn seasons.

# **Probable Hydrologic Consequences**

The Ohio Valley Coal Company  
Powhatan No. 6 Mine  
Application Area D-0360-18

October 31, 2007

*Prepared For:*

**The Ohio Valley Coal Company**  
56854 Pleasant Ridge Road  
Alledonia, Ohio 43902

*Prepared By:*

David M. Anderson, P.G.  
Moody and Associates, Inc.  
11548 Cotton Road  
Meadville, PA, 16335

## INTRODUCTION

---

Since 1987, several application areas of the Powhatan No. 6 Mine have been evaluated relative to the Potential Hydrologic Consequences (PHC) of mining activities. These areas, which are contiguous, are illustrated on the past and future application map of the permit application and include:

<u>Application Area</u>	<u>Year Prepared</u>	<u>Prepared By</u>
R-0360-1	1989	William Siplivy P.E. & C.P.G. (room & pillar)
R-0360-2	1989	Moody and Associates, Inc. (longwall)
D-0360-1	1990	Moody and Associates, Inc. (room & pillar)
D-0360-2	1991	Moody and Associates, Inc. (longwall)
D-0360-3	1992	William Siplivy P.E. & C.P.G. (Two additional applications were prepared by OVCC using this PHC for two small areas within the D-0360-3 area. They were identified as D-0360-4 and D-0360-5). (longwall)
D-0360-6	1996	Moody and Associates, Inc. (longwall) (An additional application was prepared by OVCC using this PHC for a small area within the D-0360-6 area. The area was identified as D-0360-10).
D-0360-7	1998	Moody and Associates, Inc. (longwall)
D-0360-9	1998	Moody and Associates, Inc. (room & pillar)
D-0360-11	1999	Moody and Associates, Inc. (longwall)
D-0360-12	2003	Moody and Associates, Inc. (longwall)
D-0360-13	2003	Moody and Associates, Inc. (room and pillar)
D-0360-16	2006	Moody and Associates, Inc. (longwall)
D-0360-17	2007	Moody and Associates, Inc. (longwall)

This PHC for the longwall Application area D-0360-18 has been prepared on behalf of The Ohio Valley Coal Company by Moody and Associates, Incorporated. The information developed during the preparation of the previous PHC's has been used in the preparation of this PHC.

## TOPOGRAPHIC SETTING

---

The Powhatan No. 6 Mine is located in Belmont County in southeastern Ohio. The topography of the entire application area is typical of the Appalachian Plateau Physiographic Province, which is characterized by narrow rounded ridges and deep V-shaped valleys dissecting the terrain, which is underlain by essentially horizontal sedimentary rocks. Topographic relief within the D-0360-18 application area is approximately 230 feet. The lowest elevation is approximately 1060 feet along Bend Fork on the western edge of the application area. The highest elevations are approximately 1320 feet on the hilltops along Township Road 196 (Kemp Road).

The surface drainage within the application area is to the south through unnamed tributaries to Bend Fork, which is part of the Captina Creek drainage area.

## GEOLOGIC SETTING

---

A detailed discussion of the stratigraphic and structural setting of the Application area is provided in the Geologic Section of this application. However, those properties of the geologic setting pertinent to ground water occurrence and movement are described here.

The bedrock units that outcrop in the Application area belong to the Dunkard Group which is Upper Pennsylvanian to Permian in age. The rocks consist of interbedded sandstone, siltstone, shale, mudstone, clay, fresh to brackish water limestone and coal. The Monongahela Formation (Pennsylvanian) underlies the Dunkard Group and consists of similar rock types. The Pittsburgh (No. 8) Coal seam, which is the seam to be mined, marks the bottom of the Monongahela Formation. According to Mr. James M. Raab, a hydrogeologist with the Ohio Department of Natural Resources, in correspondence to Dave Bartsch of The Ohio Valley Coal Company dated January 30, 1989, water below 250 feet beneath the stream bottoms is brackish

There is considerable horizontal and vertical variability of the rock units. Rapid facies and hydrologic property changes tend to limit the horizontal continuity of the individual rock units. With the exception of the major coal seams, very few lithologic units are continuous across the proposed application area. Horizontal facies changes and corresponding changes in hydrologic properties of the rocks tend to



enhance the importance of localized flow systems. Most of the available ground water in this region is limited to within the first 100 feet of the surface where enhanced secondary permeability associated with rock fracturing is present. This saturated zone, which is independent of the rock type, exists across the Application area. The presence of this shallow saturated zone is supported by the OVCC drilling records and by the depths of the water wells in the Application area. The majority of the wells in the Application area are less than 100 feet deep (See Hydrologic Inventory Form). Ground water recharge in the upland or ridge top areas results in downward migration primarily within this shallow saturated zone. Because the topographic relief between ridge tops often exceeds 100 feet, there are localized flow systems under the hilltops that are not in hydrologic communication with adjacent hilltops. While the ground water under any given ridge top can be viewed as being continuous, the continuity generally does not extend to adjacent hilltops.

The geologic structures in the Application area consist of gently folded rocks that dip to the southeast at approximately 30 feet per mile. Overburden thickness above the Pittsburgh coal seam ranges from a low of approximately 220 feet along Bend Fork to a high of approximately 540 feet under hilltop along Kemp Road.

## **GENERAL HYDROLOGIC SETTING**

---

The source of all the near surface ground and surface water in the mine plan area is precipitation. Upon reaching the land surface, water that is not part of direct surface runoff or evapotranspiration infiltrates into the subsurface and contributes to soil moisture and ground water.

Within a bedrock aquifer system, ground water can occur in primary and secondary openings. Primary openings are pore spaces between sand, silt and clay grains formed at the time of sediment depositions. Primary permeability is the ability of water to move between pore spaces. In this area, primary permeability is very low and limited ground water movement occurs in hard or soft rocks as a result of primary openings (Stoner 1983, Siplivy 1992).

Secondary porosity and permeability is formed by fractures, partings or bedding plans in the rock mass. Most available ground water in the application area occurs within the first 100 feet below the surface within these secondary openings and the success of a water well in terms of yield potential is

dependent upon the well encountering water filled fracture zone(s) that transmit enough water to the well bore to meet the well's intended use (Schmitt et al., 1983; Waite, 1987).

A study, completed by the United States Geological Survey, of the hydrologic effects of coal mining in Washington County, Pennsylvania determined that over 90% of the groundwater recharge remained within 150 feet of the surface. The study also found that most of the groundwater recharge (95%) remained within 80 to 110 feet of the surface. The mines studied were Pittsburgh Seam longwall mines in similar hydrologic settings as the Powhatan No. 6 Mine.

Fractures are not ubiquitous in the area, however, and are not interconnected over large areas. For these reasons, it is very difficult to identify aquifers over large areas and the ground water flow system tends to be made up of small, localized fracture controlled systems. While fractures in hard rocks tend to stay open better than fractures in soft rock, the horizontal and vertical variability of the hard rock units tend to produce hydraulically isolated areas.

In addition, fractures tend to close at increasing depths due to overlying lithostatic pressures, thereby limiting the effective depth of the ground water flow system (Stoner, 1983). This condition is evident throughout the Powhatan No. 6 Mine. The mine, in general, is very dry with very minor amounts of water inflow limited to the low cover areas (generally less than 200 feet). The overburden thickness in the application area ranges from approximately 220 feet to 540 feet. No water inflow into the mine is expected in this application area.

Based on an evaluation of the geologic units cyclothems have been identified within the D-0360-18 hydrologic boundary. The cyclothems are independent of the individual rock types and are defined as the sequence of rocks between the coal seams. These units, which are also outlined on the Ground Water Description form, are summarized below:

**Aquifer A: Unconsolidated Material**

Includes the layer of weathered bedrock above solid bedrock and unconsolidated deposits along stream valleys.

#### **Aquifer B: Washington No. 12 Cyclothem**

Includes the rock sequence from the Washington Coal Bed to the surface of the consolidated bedrock. Occurs from approximately 350 feet to 500 feet above the No. 8 Pittsburgh Coal Bed.

#### **Aquifer C: Waynesburg No. 11 Cyclothem**

Includes the rock sequence from the Waynesburg No. 11 Coal Bed to the Washington No. 12 Coal Bed. Occurs from approximately 250 feet to 350 feet above the No. 8 Pittsburgh Coal Bed.

#### **Aquifer D: Sewickley No. 9 Cyclothem**

Includes the rock sequence from the Sewickley No. 9 Coal Bed to the Waynesburg No. 11 Coal Bed. Occurs from approximately 90 feet to 250 feet above the No. 8 Pittsburgh Coal Bed.

### **WATER SUPPLIES**

---

A total of 16 water supplies (3 wells and 13 developed springs) that serve domestic and agricultural needs have been inventoried within the hydrologic boundary of the Application area. The Application area and Hydrology Map illustrates the location of these supplies. Six of the inventoried wells and four of the inventoried springs are outside the planned mining area but are within the hydrologic boundary. The water supply inventory also identified all of the unused wells and developed springs within the hydrologic boundary of the application area. These unused supplies are included on the Hydrogeologic Inventory Forms. Only the used supplies are discussed in the PHC.

In general, the average depth of the used wells in the Application area is 69 feet. The average overburden thickness, from the well bottom to the coal seam, is 264 feet and the rock column contains about 73 percent of soft rocks (shale, clay, mudstone, and sandy shale). Similar overburden, lithologic, and topographic settings are associated with the springs. Most of the inventoried springs occur as hillside seeps with a few spring occurring in the valley bottoms. The predominance of hill side springs is a common phenomenon in this hydrogeologic setting and it reflects the presence of low permeability units that act as aquitards and promote horizontal flow to the side of the hills. A summary of the topographic and mine position for the wells and springs is shown on TABLE A.

## Literature Review

Since 1972, when the Powhatan No. 6 Mine was opened, considerable research has been conducted relative to the impacts on the ground water flow system by longwall mining in the western Pennsylvania, northern West Virginia and southeastern Ohio areas. This literature database was reviewed as a guide to selecting those variables pertinent to predicting the hydrologic consequences of mining in the application area. An annotated bibliography of this literature is provided as the end of this report.

Stoner (1983); Rauch (1984); Cifelli (1986); and Dixon et al. (1988 & 1990) explored the relation between overburden thickness and effects on ground water levels. In general, a conclusion was drawn that there is an inverse relation between overburden thickness and detrimental impacts to water levels. Aquifers less than 200 feet above longwall mines are more likely to be partially dewatered than aquifers greater than 200 feet above the mine.

Dixon et al. (1990), Parizek (1971), Schubert (1980), and Stoner (1983) investigated the importance of rock fracturing. The studies conclude that secondary rock fractures have a major influence on ground water occurrence and movement. In addition, Rauch (1984), determined that rock lithology of the overburden material was important in evaluating hydrologic impacts of mining. In general, the presence of a high percentage of soft rocks such as shale, clay, and mudstones minimizes negative impacts.

Walker (1988) and Leavitt et al. (1992) indicated the position of the water supply over the longwall panel affected the degree of hydrologic impact. In general, the greatest water level declines occurred directly over the panels and decreased away from the panels. Water wells outside the angle of draw were generally unaffected.

Leavitt et al. (1992) found a strong correlation between topographic position and water level declines over longwall mines. In general, where overburden thickness exceeded 300 feet, the greatest impacts occurred in hilltop wells and springs, a lesser impact was noted in hillside wells and springs and the least impacts were noted in valley bottom wells and springs.

Leavitt et al (1992) and Tieman et al. (1986) made a correlation between hydrologic base level and water level declines. In general, the closer the bottom of the well (or spring) is to the local hydrologic base level, the less severe and less permanent are the impacts. However, Leavitt noted that base level and topographic position are similar variables and topographic position proved to be a more reliable variable in predicting hydrologic impacts.

Williams et al. (1993) determined that over 90% of the total ground water recharge remains within 150 feet of the surface. Over 95% of the recharge was found to remain within 80 to 110 feet of the surface.

These variables, which include overburden thickness, local rock lithology, position over the longwall mining panel, topographic position and local hydrologic base level, are used here to evaluate the potential hydrologic impacts in the application area.

## **PROBABLE HYDROLOGIC CONSEQUENCES SUMMARY**

### **Surface Water**

Based on a review of the existing literature and the monitoring data from previously mined areas of the Powhatan No. 6 Mine (See addendum to Page 18 Part F), it is expected water flow in selected sections of first order streams where overburden thickness exceeds 200 feet may be temporarily reduced over relatively short stream segments. Due to the high percentage of soft rocks in the mine overburden, the overburden thickness and the minimal amount of water that enters the mine, any stream water loss that may occur is not expected to drain into the mine.

This generalized theory for areas with 200 feet or more of cover is supported by the data generated by the OVCC in the D-0360-2, D-0360-3, D-0360-6 and D-0360-7 areas where undermining has occurred and hydrologic changes have been monitored. These areas are in very similar hydrogeologic settings and a temporary lowering of the water table under the hilltops and higher elevations is documented in water wells and spring flows. It is expected that any reduction in stream flows will be limited in the upper elevations primarily in the first order streams. Inspections of streams that were undermined indicate that a majority of the streams appear to have returned to normal flow conditions within several years after mining (personal communication with D. Bartsch, 1999, 2007). See Addendum to Part 3, Page 28, (K)(5)(b).

### **Ground Water**

The data collected in the D-0360-2, D-0360-3, D-0360-6 and D-0360-7 areas and information in published reports and studies indicate that ground water levels may decline as mining passes under an area. Most developed water supplies will likely experience a decline in static water level or flow. The amount of this decline appears to be dependent on the topographic position of the water supply. Hilltop water supplies may be impacted more often than water supplies located in valley bottoms. Springs are generally more significantly impacted than wells. In most cases some recovery of ground water levels occurs after mining has passed under a water supply.

### **Post Mining Water Breakouts**

The lowest cover above Application Area D-0360-18 is located in the southeast edge of application area along Bend Fork. The lowest surface elevation above the application area is approximately 1090 ft msl. The maximum coal elevation in the application area is approximately 840 ft msl or 250 ft below the lowest surface elevation above the Application Area. The lowest surface opening elevation for the Powhatan No. 6 Mine is 847 feet msl. The maximum coal elevation in application area D-0360-18 is approximately 840 feet msl or 7 feet below the lowest surface opening. The high coal elevation is located in the previously mine D-0360-7 Application Area. The addition of the D-0360-18 Application Area to the approved mining area will not significantly alter the existing hydrologic conditions in the Powhatan No. 6 Mine.

The lowest surface elevation adjacent to the area above the Powhatan No. 6 Mine is 760 ft msl. The 760 foot elevation is located in the Captina Creek valley near Armstrong Mills. The Powhatan No. 6 Mine undermined Captina four times. The coal elevation in this area is approximately 700 ft msl. The surface over the areas where the creek was undermined varies from 780 to 810 ft msl. The lowest cover areas above the mine are located in these areas, where the lowest cover is approximately 80 feet (See Cover Map). The low cover areas are above the room-and-pillar sections and these areas have not been subsided.

In examining the potential for post-mining water break outs at the No. 6 Mine, we examined the nearest adjacent abandoned mine in the area with monitoring data. The Oglebay Norton Company's abandoned Norton No. 3 Mine (State ID Number BT-68) is located 7200 ft to the east of the Powhatan No. 6 Mine. The Oklahoma Coal Company owns the surface above the Norton Mine, which operated from 1953 to 1972. The Norton Mine was a room-and-pillar operation located in the Pittsburgh Seam. Access to the Norton Mine entries was through an airshaft with a surface elevation of 730.5 ft msl, located less than 300 ft from Captina Creek. The elevation of Captina Creek in this area is at elevation 710 ft msl. The coal seam elevation at the location of the sealed airshaft is 669 ft msl. The mine developed entries to a maximum coal seam elevation of 792 ft msl.

The lowest surface elevation over the entire mine is approximately 695 ft msl. The potential exists for the level of the Norton Mine pool to exceed the lowest surface opening by 61.5 ft, and to exceed the elevation of the lowest surface elevation adjacent to the area above the mine by about 97 ft.

There are two monitoring wells that are finished into the strata immediately above the mine that are monitored by The Oklahoma Coal Company. The ground water level in these monitoring wells has not exceeded an elevation of 702 ft msl since monitoring began in early 2005. The ground water elevation in the wells has been below the 720 ft msl elevation of the Captina Creek streambed. Figure L-1 shows the Norton Mine Monitoring Wells and their respective elevations.

In addition the ground water quality in these two monitoring wells indicate that if the a post-mining breakout were to occur, the quality of the water would generally be with in the effluent limitations (pH – 6-9 SU, Fe – 3.5 mg/l, Mn – 2 mg/l, Total Suspended Solids – 35 mg/l). See Tables LT-3 and LT-5. No discharge from the Norton Mine to Captina Creek is known to have occurred.

**Monitoring Data Summary – Wells Above Norton No. 3 Mine**  
**January 2005-December 2006**

**TABLE LT-3**

SWL ELEV (ft- msl)		pH (SU)	TOT. ACIDITY (mg/l)	TOT. ALKALIN- ITY(mg/l)	TOT. IRON (mg/l)	TOT. MN (mg/l)	TOT. SUS. SOLIDS (mg/l)	HARD - NESS (mg/l)	TOT. SULFATE (mg/l)	SPEC COND (µmho/ cm)
695.6	AVG	N/A	3.95	861	1.35	4.73	13.22	149	627	3522
	MAX	8.90	64.00	1200	5.90	41.0	95	700.00	770.00	5500
	MIN	7.80	0.00	720	0.01	0.0	0	30.00	390.00	2500

Monitoring from Jan. 2005 – Dec. 2006  
0 = Below Detectable Limits

**Table LT-5**

SWL ELEV (ft- msl)		pH (SU)	TOT. ACIDITY (mg/l)	TOT. ALKALIN- ITY(mg/l)	TOT. IRON (mg/l)	TOT. MN (mg/l)	TOT. SUS. SOLIDS (mg/l)	HARD- NESS (mg/l)	TOT. SULFATE (mg/l)	SPEC COND (µmho/ cm)
692.1	AVG	N/A	5.08	844.45	1.42	0.14	.89	81	432	2833
	MAX	8.3	17.0	1000.0	6.2	0.5	8.0	500.0	660.0	3500.0
	MIN	7.8	0.0	7.8	0.1	0.0	0.0	20.0	150.0	2100.0

Monitoring from Mar. 2005 – Dec. 2006  
0 = Below Detectable Limits



**Potential for Post-Mining Water Breakout at the Powhatan No. 6 Mine**

The potential exists for the mine pool level in the Powhatan No. 6 Mine to exceed the lowest surface elevation above the Powhatan No. 6 Mine. Based on the ongoing monitoring at the nearby Norton Mine, if a discharge from the Powhatan No. 6 Mine to Captina Creek did occur, the discharge will likely be within effluent limits.

**TABLE A**  
**Addendum to Page 17, Part 2, F(1)**

**Ohio Valley Coal Company**  
**Application Area D-0360-18**

**Well and Spring Descriptions Predicted Hydrologic Impacts Summary**

SOURCE	SURFACE ELEVATION (feet)	COAL ELEVATION (feet)	OVERBURDEN DEPTH (feet)	Well Depth (feet)	Overburden Well Bottom (feet)	TOPOGRAPHIC POSITION	PANEL POSITION	DISTANCE TO NEAREST PANEL EDGE (feet)	USE	PREDICTED HYDROLOGIC IMPACT
DS 425	1240	795	445	NA	NA	Hillside	Quarter-panel	200	Livestock	Impacts as described in the PHC
DS 425A	1240	785	455	NA	NA	Hillside	Mid-Panel	400	Livestock	Impacts as described in the PHC
DS 435A	1160	775	385	NA	NA	Valley Bottom	Quarter-panel	50	Livestock	Impacts as described in the PHC
DS 440	1210	780	430	NA	NA	Hillside	Gate	25	Domestic	Impacts as described in the PHC
DS 440A	1260	780	480	NA	NA	Hillside	Mid-Panel	400	Livestock	Impacts as described in the PHC
DS 440B	1230	780	450	NA	NA	Hillside	Quarter-panel	150	Livestock	Impacts as described in the PHC
DS 455	1192	810	382	NA	NA	Hillside	Mid-Panel	350	Domestic	Impacts as described in the PHC
DS 459	1170	815	355	NA	NA	Hillside	Quarter-panel	100	Domestic	Impacts as described in the PHC
DS 470	1130	800	330	NA	NA	Valley Bottom	Outside	280	Livestock	Impacts as described in the PHC
DS 471	1130	805	325	NA	NA	Hillside	Outside	350	Livestock	Impacts as described in the PHC
DS 472	1175	785	390	NA	NA	Hillside	Gate	240	Livestock	Impacts as described in the PHC
DS 473	1200	11	1189	NA	NA	Hillside	Outside	280	Livestock	Impacts as described in the PHC
DS 494	1220	780	440	NA	NA	Hillside	Quarter-panel	200	Livestock	Impacts as described in the PHC
W 691	1270	770	500	46	454	Hillside	Quarter-panel	50	Domestic	Impacts as described in the PHC
WL 730	1089	835	254	41	213	Hillside	Outside	225	Domestic	Impacts as described in the PHC
W 731	1100	855	245	121	124	Hillside	Outside	1180	Domestic	No Impact expected

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ADDENDUM TO ATTACHMENT HYDROLOGY INVENTORY

RAINFALL DATA – MONITORING STATION LOCATIONS

There are two monitoring stations for rainfall at the Powhatan No. 6 Mine. The first is at the No. 1 Portal, located near Alledonia, Ohio. It is designated as the Alledonia Station and is approximately 26,000 ft from the D-0360-17 application area. The second is located near the No. 2 Portal, near Centerville, Ohio. It is designated as the Centerville Station, was started in 1999, and is located approximately 15,600 ft from the D-0360-17 application area.

MONITORING STATIONS THAT CANNOT BE SAMPLED

The following stations cannot be sampled. Reasons why are shown on the following table.

SOURCE ID	SAMPLING POSSIBLE	WHY

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### HYDROLOGIC DETERMINATION

Based on the information submitted in this application, the enclosed probable hydrologic consequences may be expected. Although the overall hydrologic regime will not be affected, individual sources of ground and surface water may be temporarily disrupted. That is, individual wells, springs, or streams may experience significant water loss. However, this effect is expected to be temporary in some cases. Supplies that are affected permanently will be replaced by OVCC at its own expense by connecting the water user to another supply. The cost of domestic water will be the responsibility of the water user unless otherwise agreed upon by OVCC and the water user. The quality of the surface and ground water in the application area is not expected to be changed in the long term as a result of the proposed mining activities. Specifically, the levels of pH, iron, manganese, total suspended solids, and total dissolved solids are not expected to vary from their original levels. However, these parameters may be temporarily changed.

Some temporary changes to individual ground water and surface water source availability are anticipated. Wells and springs may go dry, streams may flow less, ponds may de-water. However, the effect on sediment yield, acidity, total suspended and dissolved solids, and flooding are expected to be minimal if any.

The effects are expected to stabilize within about two years as the localized water table reaches equilibrium again. Ponds and streams with visible cracks that are draining water will be repaired. Permanent replacement supply systems will be provided if an individual source is permanently affected.

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DEVELOPED SUPPLIES OF GROUND AND SURFACE WATER THAT MAY BE  
IMPACTED AS A RESULT OF THE PROPOSED OPERATION

Of the supplies listed in the hydrologic inventory, impacts shown in Tables A and B are expected as a result of the proposed operation. According to the PHC, these sources may be impacted as a result of mining as shown on Tables A and B.

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### ALTERNATIVE WATER SUPPLY INFORMATION

#### Adjacent Areas Above Full Recovery Mining

The PHC contained in this application indicate a potential for diminution and/or interruption of ground water supplies in areas above and contiguous to full recovery mining operations. However, no contamination of such water supplies is expected.

Notwithstanding its mining rights and without waiving any of its mining rights, where such diminution or interruption results from full recovery mining, The Ohio Valley Coal Company will repair or install a replacement source in the adjacent area at its own expense in a manner mutually satisfactory to OVCC, the water user, and the Division of Mineral Resources Management, and to a level sufficient to meet the water user's pre-mining quantity and quality levels which will be determined by monitoring information gathered in accordance with the Monitoring Plan.

Past experience indicates that the majority of subsidence (that detectable with surveying equipment) is complete within about 45 days after the longwall passes under the area. Water losses generally occur within that time period.

OVCC intends to comply with PPD Technical 06-1 when required to effect water replacement. The steps which OVCC would take to repair or replace affected water sources in the adjacent area include:

1. Repair damaged cisterns after OVCC has determined that subsidence is complete;
2. On a site-specific basis, re-drill existing wells, drill new wells, or connect the water user to public water supplies (if no public water supply exists, OVCC may install a line of sufficient size to service those affected by OVCC's mining operation). Belmont County Sanitary Sewer District has a water line within several miles of the application area that OVCC could use for interim water replacement;
3. On a site specific basis, developed springs will be replaced by a farm pond built according to accepted engineering practices, drilling of a new well, development of another spring in close proximity to the original spring, or connect the water user to public water supplies (if no public water supply exists, OVCC may install

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a line of sufficient size to service those affected by OVCC's mining operation);

4. Repair damaged farm ponds so as to be comparable to their pre-mining conditions;
5. Install an interim water supply until affected water supplies are replaced. Interim supplies may include hauled water or a tap to public water. OVCC will only install temporary, replacement water using a public water supply if it can be connected within 48 hours. OVCC routinely uses a certified water hauler to haul county water for temporary replacement supplies. This practice is expected to continue. The local fire department can haul water within a matter of hours after receiving a request. Temporary tanks and water troughs for livestock are kept in stock to facilitate quick installations. OVCC will pay for interim water bills.
6. Such other proven, cost effective, and reasonable techniques as OVCC may now, or in the future, deem appropriate.

It is OVCC's intention to bear the cost of the installation of both interim and permanent replacement of developed water sources. If contamination, diminution, or interruption of a water user's ground or surface water supply used for domestic use occurs as a proximate result of the mine's operation, OVCC will repair such water supply or install a replacement supply at OVCC's expense.

OVCC will install, at OVCC's expense, an alternate water supply system (within 48 hours) to be used until repair or replacement is completed or will reimburse the water user for the reasonable cost of obtaining a water supply from the date of any such contamination, diminution, or interruption until the supply is repaired or replaced. In cases where temporary water cannot be provided within 48 hours, OVCC will immediately notify the Chief of the Division of Mineral Resources Management who will determine if the circumstances warrant an extension of the 48 hours.

OVCC will provide the affected water user with no less of an available water supply than the water user had before mining, based on the pre-mining measurements. If required, OVCC will notify the Division of Mineral Resources Management immediately after it has been informed of the loss of developed water (ground or surface water) due to its mining activities.

As previously stated, the elevation of alternative water sources is unpredictable until the water system in the area again attains equilibrium after mining. Therefore, the alternative water

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supplies to be developed will be identified when the need arises.

Those supplies may include, but not be limited to, re-development of an existing well, spring, or pond, or replacement of the source with the County Water System. The County installed additional facilities in 2003 and should be able to meet the needs of additional customers that may result from OVCC's mining operation. Should there not be sufficient capacity, OVCC will not rely on County water but instead will haul water temporarily and will establish other water supplies as indicated above to meet the needs of water users affected by OVCC's mining. Other supplies include wells or springs. OVCC has drilled wells and developed springs over longwall-mined areas successfully.

If a water user believes that his or her underground or surface water source has been contaminated, diminished, or interrupted as a proximate result of the mine's operation, he or she should notify OVCC by calling (614) 926-1351. OVCC will make a determination of liability no later than sixty (60) days after notification of the contamination, diminution, or interruption of a water supply as a proximate result of the mine's operation.

Work on installing a temporary alternate water supply will be complete within 48 hours (unless an extension of the 48 hour time frame is granted by the Chief) after OVCC learns of the contamination, diminution, or interruption to a domestic-use water supply proximately caused by the mining operation. OVCC will pay for installation costs for a temporary, alternate water supply. Permanent repair or the installation of a replacement water supply for an affected water supply shall be completed no later than eighteen (18) months after it has been determined that the supply has been contaminated, diminished, or interrupted as a proximate result of the mine's operation. The costs of repair of the original water supply and/or the installation of a replacement supply system to provide the affected water user with no less of an available water supply than was being used before mining, based on the pre-mining measurements, shall be paid for by OVCC. If the water user opts to do so, he may install his own temporary water supply system. OVCC will reimburse the water user for the costs of installing a temporary water supply system. Payment for domestic water will be in accordance with PPD Technical 06-1.

In repairing or replacing a water user's ground or surface water supply system used for domestic use which is damaged as a proximate result of the mine's operation, OVCC's first preference is to repair the affected supply system. If that is neither effective nor feasible, OVCC's second preference is to replace the affected supply system with a like supply system. For example, a damaged pond, if not repairable, would be replaced with a new pond. If that is not feasible, OVCC will replace the affected supply system with a similar supply system. For



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example, a damaged dug well, if not repairable or replaceable with another dug well, would be replaced by a potable-type cistern, a drilled well or a similar supply system.

It should be recognized that property sites differ in such elements as geologic and hydrologic composition. Thus, the determination of whether repair of an affected water supply system is feasible or whether replacement by a specific type of water supply system is feasible must be made on a case-by-case, site-specific basis by OVCC. OVCC, in the past, has always attempted to consult and negotiate with the affected water user concerning the selection of the type of water replacement system and its site. This is done at the request of water users who prefer this procedure to that of OVCC making unilateral decisions about replacement supplies and sites. However, OVCC, if required by the Division of Mineral Resources Management, will make these decisions unilaterally.

In some cases, OVCC reaches pre-subsidence agreements with water users, who are normally represented by counsel and in all cases, have full opportunity to consult with counsel or anyone else of their choosing. These agreements, which are typically negotiated by OVCC employees, normally cover all potential damage claims. In situations where such an agreement is reached, OVCC will comply with the water replacement terms contained in the agreement. Such an agreement will satisfy, at a minimum, this permit and ORC 1513.162.

In any situation where OVCC determines that the contamination, diminution, or interruption of a water supply was not proximately caused by the mining operation, based on evidence such as the proximity of the supply to the mining operation, site specific geologic and surface conditions, or climatological conditions, OVCC will provide the water user and the Division of Mineral Resources Management with notice of its determination and the proof in support of that determination to allow the Division of Mineral Resources Management to issue a Chief's Order deciding the issue. This Chief's Order is then appealable in accordance with O.R.C. §1513.13. The water user's water supply system will continue in operation during the time OVCC seeks review of this matter pursuant to O.R.C. §1513.13. If it is determined that contamination, diminution, or interruption of a supply is the proximate result of the mine's operation, OVCC shall bear the costs of installing temporary water system. OVCC reserves the right to proceed against the water user to recover costs incurred if it is determined that OVCC is not liable for the contamination, diminution, or interruption of the affected water supply.

The potential exists to re-drill existing wells or to drill new wells after longwall mining. Groundwater still is available after subsidence. When subsidence occurs, the water level in some wells drops, sometimes to below the bottom of the well bore. Ground water is not lost to the mine, but the water table is lowered in response to changes in rock permeability. The Powhatan No. 6

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Mine is a dry mine which indicates that the groundwater does not flow into the mine. Rather, layers of rock that act as aquatards prevent downward migration of water into the mine. The other layers of rock, being more plastic than elastic, tend to fracture or the bedding planes separate and make more channels for the ground water to reside. Existing wells can be deepened or new wells drilled to encounter the new water table and to increase well bore reservoir storage to provide similar quantities of water after mining. Wells have been successfully drilled on land that has been undermined and subsided. If well yield is low, it has become the practice of some mining companies to install a well and place a pump in the bore that pumps to a cistern buried on the surface. This pump operates almost continuously and provides the cistern with water. A pump is then located in the cistern, which now provides the needed water, or the water gravity flows to spring tanks at lower elevations. Springs have been successfully developed on land that has been undermined and subsided.

There have been instances where a replacement water supply is not available to replace a domestic-agricultural water supply. Should it become necessary to replace a domestic agricultural water supply with county water, compensation will include payment of water bills.

OVCC will bear the incremental cost of water delivery system operation and maintenance that is over-and-above the cost of the user's original water delivery system. OVCC will not be responsible for payment for equipment that is installed at the user's request but is not necessary for replacement (examples – user requests installation of a water purification system when one was not on the original system and is not required to provide an equivalent replacement system; or user requests installation a water softener when one was not on the original system and is not required to provide an equivalent replacement system). While OVCC may install this equipment at the user's request, it does so without admitting that such equipment is necessary to provide a water system replacement that is equivalent to the original system. However, if such equipment is needed to provide water of quality that is equal to the original water, OVCC will bear the costs of operation and maintenance for this system that are over-and-above the costs of operation and maintenance of the original system.

Drilled Wells and Developed Springs

OVCC has successfully drilled wells and developed springs to replace supplies affected by longwall operations at the Powhatan No. 6 Mine. During 2006, three wells were drilled over or near longwall mining areas. A well was drilled to replace DW-399, located over the 21 West gate entries between longwall panels. The original well had a depth of 30 ft and an average static water level of 21 ft. The replacement well (log 963556) was drilled to a depth of 155 ft and had a static water level of 83 ft and yielded 0.5 gallons per minute. The contractor left the original

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dug well for use by the owner, as it still had water in it.

A well was drilled to replace W-396, which had a depth of 70 ft and a pre-mining static water level of 35 ft. The replacement well (log 963556) was drilled to a depth of 205 ft, had a static water level of 70 ft, and produced 8 gallons per minute. The contractor sealed the original well (sealing report 0113658).

OVCC attempted to drill four other wells, but they did not produce water in sufficient quantities to be used as a domestic supply, probably because they were located over the longwall panel where the strata are in compression. Wells that are located over gate entries tend to be better producing wells, probably because the strata in this location is in tension and cracks in the rock remain open more readily. The dry wells were sealed upon completion.

Logs of the all of these wells and sealing reports are included herein. However, the driller has not sent one well and its plugging report yet.

OVCC has successfully developed 9 springs on land that has been longwall mined. Years ago, one was developed to replace DS-23. More recently, one was developed to replace DS-259. Seven were developed to replace springs DS-265, DS-266, DS-267, DS-268, DS-269, and DS-270. These springs were sufficient to meet the needs of the landowner and the reasonably foreseeable use of the land on which they were located.

OVCC plans to continue to drill wells and develop springs to replace supplies disrupted by OVCC's mining operation.

Belmont County  
COMMISSIONERS

Gordie W. Longshaw

Charles Probst, Jr.

Mark Thomas

DIRECTOR

Mark Esposito

# BELMONT COUNTY SANITARY SEWER DISTRICT

P. O. BOX 457

ST. CLAIRSVILLE, OHIO 43950

Phone: (740) 695-3144

Fax: (740) 695-3411



February 12, 2007

Ohio Valley Coal Company  
Attn: David L. Bartsch, P.E.  
56854 Pleasant Ridge Road  
Alledonia, OH 43902

Dear Mr. Bartsch:

I received your inquiry into replacing water in the Goshen Township area for approximately 100 homes. Based on an average usage of 400 gallons per day per resident, the Belmont County Sanitary Sewer District has enough capacity to supply your need in this area.

If you have any questions, please give me a call.

Sincerely,

Mark Esposito  
Director

ME:pn

TOVCC 13031

G. LAND USE INFORMATION - Permit Area

- (1) Describe the uses of the land within the proposed permit area existing at the time of the filing of this permit application and provide a map which delineates the area of each land use.
- (2) Was the land use described in item G(1) above changed within five years before the anticipated date of beginning this proposed mining operation? ☐ Yes, ☐ No. If "yes," submit an addendum describing the historic use of the land.
- (3) Analyze the capability of the land within the proposed permit area before any mining to support a variety of uses, giving consideration to soil and foundation characteristics, topography, vegetative cover and hydrology of the proposed permit area.
- (4) Analyze the productivity of the land within the proposed permit area before any mining to include average yields obtained under high level of management.
- (5) Is any land within the proposed permit area classified as prime farmland? ☐ Yes, ☐ No.
- (6) Submit an addendum describing the use of the land within the permit area, including the creation of permanent water impoundments, that is proposed to be made of the land following reclamation, including information regarding the utility and capacity of the reclaimed land to support a variety of alternative uses.
- (7) Are there existing land use classifications under local law of the proposed permit area? ☐ Yes, ☐ No. If "yes," describe the land use classification and submit as an addendum to the permit application, the comments of the governmental agency that would have to initiate, implement, approve or authorize the proposed use of the land following reclamation. If "no," describe the sources of information on which the determination was made.

***N/A – No Surface Permit Area***

- G. (8) Submit Surface Owner Comments from the legal or equitable owner of record of the surface of the proposed permit area concerning the proposed land use.
- (9) Describe the consideration that has been given to making all of the proposed coal mining activities consistent with surface owner plans and applicable state and local land use plans and programs.
- (10) Describe how the proposed land use is to be achieved and the necessary support activities that may be needed to achieve the proposed land use.
- (11) Is the post-mining land use to be different from the premining land use? \_\_\_ Yes, \_\_\_ No. If "yes," submit Land Use Change Notification.
- (12) Has the proposed permit area been previously mined? \_\_\_ Yes, \_\_\_ No. If "yes," provide the following information, if available.
- (a) Type of mining method \_\_\_\_\_
  - (b) Coal seam mined \_\_\_\_\_
  - (c) Non-coal mineral mined \_\_\_\_\_
  - (d) Extent of mining (acres) \_\_\_\_\_
  - (e) Approximate dates \_\_\_\_\_
  - (f) Land use preceding mining \_\_\_\_\_

H. PRIME FARMLAND INVESTIGATION - Permit Area

- (1) Does the proposed permit area include any land that is prime farmland, taking into consideration the negative determinations listed in paragraph (L) (2) of rule 1501:13-4-13 of the Administrative Code? \_\_\_ Yes, \_\_\_ No.
- (2) If the response to item H.(1) is "yes," submit PFL Restoration Plan.
- (3) If the response to item H.(1) is "no," submit Negative PFL Determination.

I. FISH AND WILDLIFE PLAN

Describe the fish and wildlife resources for this permit area and adjacent area in accordance with paragraph (P) (1) (a-b) of rule 1501:13-4-05 of the Administrative Code.

**N/A – No Surface Permit Area**

PART 3 RECLAMATION AND OPERATIONS PLAN

A. GENERAL REQUIREMENTS - Permit Area (Items A (1) and A (2) - Permit and Underground Workings)

- (1) Submit an addendum describing the type and method of coal mining procedures for this application. Explain how these procedures will maximize the use and conservation of the coal resources.  
**See Addendum to Page 20, Item A(1)**

- (2) Indicate the anticipated annual and total production of coal from this proposed operation.

Annual .83 Mil. Ton Total .83 Mil. Ton

- (3) Will this operation be combined with surface coal mining activities to the extent that contemporaneous reclamation of areas disturbed by surface mining will be delayed or such that the underground workings will be within 500 feet of the surface mining activities? Yes, X No. If "yes," submit Variance for Delay in Contemporaneous Reclamation.

- (4) Are experimental mining practices to be employed in the proposed mining operations? Yes, No. If "yes," submit as an addendum to the permit application, the description, maps and plans required by paragraph (B) of rule 1501:13-4-12 of the Administrative Code.  
**N/A**

- (5) Are mountain top removal mining practices to be employed in the proposed mining operations? Yes, No. If "yes," submit as an addendum to the permit application the information required by paragraph (C) of rule 1501:13-4-12 of the Administrative Code.  
**N/A**

- (6) Are the natural pre-mining slopes within the permit area in excess of twenty (20) degrees? Yes, No. If "yes," submit an addendum demonstrating compliance with the steep slope mining provisions of paragraph (D) of rule 1501:13-4-12 and 1501:13-13-05 of the Administrative Code.  
**N/A**

- (7) Is augering-highwall mining proposed within the permit area? Yes, No. If "yes," submit Auger-Highwall Mining.  
**N/A**

- (8) Are variances from approximate original contour to be employed for the proposed underground mining surface operations? Yes, No. If "yes," submit an addendum to the permit application demonstrating compliance with paragraph (E) and/or (K) of rule 1501:13-4-12 of the Administrative Code.

**N/A**

THE OHIO VALLEY COAL COMPANY  
POWHATAN NO. 6 MINE  
PERMIT D-0360  
ADDENDUM TO PAGE 21, A(1)

## MINING METHODS

This application area will be mined by the longwall method of mining. Longwall mining is a method by which large panels of coal are surrounded by entries and are then extracted. Shields temporarily support the roof as the longwall machinery cuts the coal. The shields are then hydraulically moved forward, allowing the roof to collapse behind them. Subsidence of the surface occurs as the strata above the mine first collapses into the void left from the extracted coal, then the overlying strata deforms and comes to rest atop the rubble. Monitoring shows that the surface subsides approximately 60 to 69 percent of the seam thickness of about 64 inches. This mining method maximizes the recovery of the reserve by leaving coal only in the development entries (main and gate entries) and barrier pillars to protect the main entries.

The mining progresses from other approved mining areas to this application area through main entries that carry the ventilation currents and contain the haulage entries. These main entries are a series of parallel tunnels (entries) that branch down into the gate development entries that surround the longwall panels. While continuous miners are used for these development entries, they are not considered production sections since only about 50 percent of the coal seam is removed in these areas. This mining is considered part of the longwall mining conducted at the Powhatan No. 6 Mine. The coal is mined and after mining, the roof is supported by the pillars and by roof bolts that support the immediate roof. In gate entries, the pillars are sized to allow crushing of the pillars once the second longwall panel has passed the pillars. If there is no longwall mining adjacent to the pillars, or if only one panel passes the pillars, they are designed to stand indefinitely with very high safety factors.

Full coal recovery (longwall mining) methods are planned for the entire application area with the exception of where subsidence is not planned. Wherever there is no subsidence, coal pillars will be sized sufficiently to maintain a high factor of safety for long-term standup. In the area surrounding the two tracts owned by others, rooms will be driven using continuous miners, but no second mining (removal) of the pillars is planned.

Mining rights will be obtained for the two tracts not owned by OVCC and an application for those areas will be submitted and approved at some later time, but these areas will not be mined under this application.



- A. (9) Will access to the underground workings be gained through a drift entry?  
\_\_\_\_ Yes, \_\_\_\_ No. If "yes," provide as an addendum sufficient information to determine the location of the entry relative to the highest elevation of the coal reserve. Is the drift entry located so as to eliminate the potential for a gravity discharge? \_\_\_\_ Yes, \_\_\_\_ No. If "no," the applicant must demonstrate that the coal seam is not acid or iron producing. Provide an analysis of the strata immediately above and below the coal, and the coal seam itself, sufficient to demonstrate that the water quality from the entry will meet effluent limitations without treatment.  
**N/A**
- (10) For entries to underground workings other than drift entries, provide as an addendum sufficient information to determine the location of the entry relative to the coal reserve. Are the entries located so as to eliminate the potential for a gravity discharge? X Yes, \_\_\_\_ No. If "no," provide the following demonstration:  
**See PHC**
- (a) The gravity discharge will meet effluent limitations without treatment, or
- (b) The water will be treated to meet effluent limitations and provisions will be made for consistent maintenance of the treatment facility throughout the anticipated period of gravity discharge
- (11) Will the permanent entry seals be designed to withstand the maximum anticipated hydraulic head when the operations are abandoned? \_\_\_\_ Yes, \_\_\_\_ No. If "yes," submit the appropriate information demonstrating that this will be accomplished. If "no," provide a typical plan for the seals to be used to close the mine entries pursuant to applicable state and federal regulations.  
**N/A**
- (12) Submit an addendum describing the construction, modification, maintenance, and removal (unless to be retained for post-mining land use), including the proposed engineering techniques and major equipment to be used, of the following facilities:  
**N/A**
- (a) Dams, embankments and other impoundments. Do any of the plans for water, sediment or slurry impoundments meet the requirements of 30 CFR 77.216? \_\_\_\_ Yes, \_\_\_\_ No. If "yes," submit as an addendum a plan that addresses each of the requirements in 30 CFR 77.216-2
- (b) Overburden and topsoil handling and storage areas and structures

- A. (12) (c) Coal removal, handling, storage, cleaning and transportation areas and structures; including, but not limited to, preparation plants, beltlines, tipples, rail sidings and primary roads. For roads, conveyors and rail systems, submit an addendum describing the information required pursuant to paragraph (L) of rule 1501:13-4-14 and 1501:13-10-01 of the Administrative Code.
- (d) Spoil removal, handling, storage, transportation and disposal areas and structures, including underground development waste or excess spoil disposal sites. If underground development waste or excess spoil is to be generated, submit an addendum describing the information required by paragraphs (O) and (P) of rule 1501:13-4-14 and 1501:13-9-07 of the Administrative Code.
- (e) Mine facilities such as portal/shaft development, boreholes, de-gas holes, vents, office or shop buildings and maintenance facilities
- (f) Water and air pollution control facilities
- (13) Provide an estimate of the cost per acre to reclaim the permit area.  
\_\_\_\_\_ per acre
- (14) Will the proposed operation include any of the following:
- (a) Disposal of coal mine waste from a wash plant, tipple, or other source? \_\_\_\_\_ Yes, X No. If "yes," submit Coal Waste Plan and, if applicable, the information required by paragraph (H) of rule 1501:13-4-14 of the Administrative Code.
- (b) Disposal of fly ash or other noncoal wastes? \_\_\_\_\_ Yes, X No. If "yes," submit an addendum which addresses the disposal material and a detailed disposal plan, pursuant to paragraph (E) of rule 1501:13-9-09 of the Administrative Code.
- (c) Return of slurry or other mine waste or material into the abandoned underground workings? \_\_\_\_\_ Yes, X No. If "yes," comply with provisions contained in paragraph (N) of rule 1501:13-4-14 and paragraph (Q) of 1501:13-9-04 of the Administrative Code, and submit copies of the required MSHA approvals as an addendum.
- (15) Will the proposed operation include beneficial use of coal combustion by-products (CCBs) pursuant to Section 1513.02 of the Ohio Revised Code? \_\_\_\_\_ Yes, X No. If "yes," submit CCB Plan.

B. EXISTING STRUCTURES - Permit Area

- (1) Are any existing structures proposed to be used in connection with or to facilitate the coal mining and reclamation operation? \_\_\_\_\_ Yes, \_\_\_\_\_ No. If "yes," submit as an addendum to the permit application a description of each structure. The description shall include the information required by paragraph (B)(1) of rule 1501:13-4-14 of the Administrative Code.
- B. (2) Are any existing structures proposed to be modified or reconstructed for use in connection with or to facilitate the coal mining and reclamation operation? \_\_\_\_\_ Yes, \_\_\_\_\_ No. If "yes," submit as an addendum to the permit application, a compliance plan for each structure. The plan shall include the information required by paragraph (B)(2) of rule 1501:13-4-14 of the Administrative Code.

**N/A - No Surface Permit Area**

C. **BLASTING - Permit Area**

Will blasting occur within 25 feet of the surface during shaft and portal development or other on-site development? \_\_\_ Yes, X No. If "yes," submit Blasting - Underground Operations.

D. **RECLAMATION PLAN - GENERAL REQUIREMENTS - Permit Area (Item D (12)-  
Permit, Shadow and Adjacent Area)**

- (1) Provide a detailed timetable for the completion of backfilling and grading for each mining year.
- (2) Provide a detailed timetable for the completion of resoiling for each mining year.
- (3) Provide a detailed timetable for the completion of planting for each mining year.
- (4) Describe the plan for backfilling, compacting and grading of the disturbed permit area, including the disposal of all mine generated debris.
- (5) Submit an addendum describing the plan for the removal, storage, redistribution and stabilization of topsoil, subsoil, or approved alternative resoiling material to meet the requirements of rule 1501:13-9-03 of the Administrative Code. If an alternative resoiling material is to be used, submit ARM Plan.
- (6) Provide the following information for the revegetation plan:
  - (a) Schedule for revegetation to include planting of temporary vegetation.

***N/A – No Surface Permit Area***

D. (6) (b) List the species and amounts per acre of seeds and seedlings to be used.

(c) Describe the methods to be used in planting and seeding.

(d) Describe the mulching techniques.

(7) Describe the soil testing plan for evaluation of the results of topsoil handling and reclamation procedures related to revegetation.  
**N/A**

(8) Submit an addendum describing the measures to be employed to handle and place acid or toxic-forming materials in accordance with paragraph (J) of rule 1501:13-9-04 and paragraph (J) of rule 1501:13-9-14 of the Administrative Code.  
**N/A**

(9) Describe the measures, including appropriate cross-sections and maps, to be used to plug, case or manage mine openings or bore holes other than those entries utilized to gain access to the underground workings, pursuant to rule 1501:13-9-02 of the Administrative Code.  
**N/A**

(10) Is the reclamation plan consistent with local physical, environmental, and climatological conditions? \_\_\_ Yes, \_\_\_ No.  
**N/A**

(11) Identify any other applicable air and water quality laws and regulations and health and safety standards and describe the steps to be taken to comply with each.  
**N/A**

(12) Submit an addendum describing the plan for minimizing to the extent possible and using the best technology currently available disturbances and adverse impacts of the operation on fish and wildlife and related environmental values, including compliance with the Endangered Species Act, and achieving enhancement of such resources where practical for the permit, shadow and adjacent areas.  
**SEE ADDENDA TO PAGE 24, D(12)**

THE OHIO VALLEY COAL COMPANY  
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ADDENDUM TO PAGE 24, D(12)

PLAN FOR MINIMIZING TO THE EXTENT POSSIBLE AND USING THE BEST  
TECHNOLOGY CURRENTLY AVAILABLE DISTURBANCES AND ADVERSE  
IMPACTS OF THE CURRENT OPERATION  
ON FISH, WILDLIFE AND RELATED ENVIRONMENTAL VALUES AND  
ACHIEVING ENHANCEMENT OF SUCH RESOURCES WHERE PRACTICAL

The proposed operation, longwall mining, minimizes to the extent possible (and is the best technology currently available) impacts on fish, wildlife, and environmental values because it occurs in a planned, predictable and controlled manner. There are no impacts anticipated to fish, wildlife, and environmental values. Areas where longwall mining have occurred do not show any impacts on such resources. Streams in this application area may contain minnows that flourish during periods when there are high water conditions. But, in the dry periods, these minnows migrate downstream to deeper water. They migrate back upstream during the following year. Higher order streams undermined by the longwall are not expected to be changed greatly during mining, and any impacts are temporary, as evidenced by mining in other areas. Therefore, no impacts are anticipated to fish, wildlife, and such resources. Ponds in this area that may contain fish historically have not been impacted by longwall mining. In one instance, an abandoned gas well was located within a pond used recreationally, was plugged prior to mining, and the pond went partially dry temporarily until it healed itself. The pond is full at this time and contains fish.

Wetlands

Wetlands have been undermined by the longwall at the Powhatan No. 6 Mine. Monitoring of the wetlands shows that there have been no impacts to the wetlands from the longwall mining. The soil in the wetland continued to retain large amounts of moisture even during extremely dry periods.

THE OHIO VALLEY COAL COMPANY  
POWHATAN NO. 6 MINE  
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ADDENDUM TO PAGE 24, D (12)

RECLAMATION PLAN - FISH, WILDLIFE, ENVIRONMENTAL VALUES

The proposed longwall mining operation is not expected to impact fish, wildlife, and other related environmental values. The longwall will not undermine any streams where fish live. Minnows have been found in some of the larger stream segments within the application area. However, the normal annual cycle shows that during the summer and fall months, when the stream flow is minimal, the minnows swim downstream, only to return again. Observations show that stream segments that go dry following subsidence have returned to near their normal flow, and will again support minnows. The larger streams will return to normal flow faster than smaller streams because more sediment is carried in larger streams and help fill any residual cracks that may be found. There are several ponds overlying the application area, and larger fish live in them. Our experience at the Powhatan No. 6 Mine is that ponds are not greatly influenced by subsidence due to the amount of cover. Wildlife has never been shown to be affected by longwall mining. If surface slips are caused by mining activities, over the mining area, The Ohio Valley Coal Company will restore the land to a condition equal to its original value and reasonably foreseeable use. Undeveloped springs that are found above the application area may be dewatered and usually reposition themselves downstream. Ohio Valley will replace undeveloped springs if they are legitimately used according to our water replacement plan.

E. RECLAMATION PLAN-PROTECTION OF HYDROLOGIC BALANCE - Permit and Adjacent Area

Submit an addendum describing the measures to be taken during and after the proposed mining operations to:

- (1) Minimize disturbance to the hydrologic balance, including quality and quantity, within the permit and adjacent areas and to prevent material damage outside the permit area;
  - (2) Protect the rights of present users of surface and ground water;
  - (3) Avoid acid or toxic drainage.
- SEE ADDENDUM TO PAGE 25, E (1-3)**

F. GROUND WATER AND SURFACE WATER MONITORING PLAN - Permit and Shadow Area

Based upon the probable hydrologic consequences determination and analysis of all baseline hydrologic, geologic and other information submitted in this application, address the following items in accordance with paragraph (F) of rule 1501:13-4-14 and paragraph (N) of rule 1501:13-9-04 of the Administrative Code.

- (1) In addition to the quality and quantity parameters required for quarterly monitoring and NPDES monitoring, will any other parameters be monitored? X Yes, \_\_\_ No. If "yes," indicate the parameter(s) and the site(s) where such monitoring will occur.  
**NITRATES WILL BE ANALYZED FOR ALL SITES OVER FULL COAL RECOVERY AREAS**
- (2) Do you propose or anticipate the need for a variation in the required monitoring frequency for ground and surface water sites and monthly monitoring for NPDES? \_\_\_ Yes, X No. If "yes," describe the variation in frequency and the monitoring sites to be affected.
- (3) Describe the plan for collection, recording, and reporting of all surface and ground water quality and quantity monitoring data, including data collected for the NPDES program.

**SEE ADDENDUM TO PAGE 25, F(3)**

THE OHIO VALLEY COAL COMPANY  
POWHATAN NO. 6 MINE  
PERMIT D-0360  
ADDENDUM TO PAGE 25, E (1-3)

RECLAMATION PLAN - PROTECTION OF HYDROLOGIC BALANCE

The hydrologic balance is expected to change as shown below as a result of the proposed longwall mining operation in the long term. Temporarily, the depth below the surface of ground water will increase as a result of increasing the number of cracks in the local rock units. The static level of the ground water should re-establish itself, usually at a lower elevation, within 18 months to 2 years after mining. At that time, ground water will be available in quantity at least as great as before mining. Because of increased porosity due to the cracking caused by longwall mining, the quantity of ground water that is available to users will probably increase. Minor surface cracking over longwall areas will eventually heal or be repaired, causing the ground to capture approximately the same percentage of rainfall as before. It is anticipated that stream flow in selected sections of first order streams where overburden thickness exceeds 200 ft may be temporarily reduced over relatively short stream segments. This impact is anticipated due to the fact that the headwaters of streams occasionally relocate to lower elevations following subsidence that results in the de-watering of hillside/hilltop springs. Should perennial streams become depleted above the mine, minor fieldwork will be done to re-establish the flow gradient as needed. This work will be done within two years after mining if the stream flow has not been established naturally. The monitoring data obtained for the ground and surface water sources over the longwall areas at the Powhatan No. 6 Mine indicate there will be no lasting deleterious effects of the longwall mining on water quality. Therefore, the hydrologic balance outside the permit area will be protected.

The rights of present users of surface and ground water will be maintained through the water replacement plan found in the Addendum to Page 25, E(2). It is anticipated that within two years, ground water will re-establish itself so that wells and springs can be replaced. Surface water drainage is not expected to be impacted seriously by longwall mining.

Acid or toxic drainage are not expected to be a problem at the Powhatan No. 6 Mine. The No. 8 seam is entirely below drainage, and the openings to the surface are located high enough above the seam that they will not experience hydraulic pressure from the seam. The major watersheds of this area, Captina and McMahon Creeks, are at the elevation of the mining for the application area at a distance of over 5 miles from the mine. Acid or toxic drainage is not expected to enter the waters of the State.



THE OHIO VALLEY COAL COMPANY  
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ADDENDUM TO PAGE 25, F (3)

### GROUND WATER AND SURFACE WATER MONITORING PLANS

#### 1. Ground Water Monitoring Plan

All legitimately developed, used ground water supplies will be monitored quarterly for quality and monthly for quantity for at least one year prior to full recovery mining, and at least one year subsequent to mining unless access is denied by the land owner. This monitoring will include wells and springs used for domestic purposes. Weekly quantity monitoring will be conducted whenever the longwall face is within three weeks of undermining the supply and no less than three weekly pre-mining and post-mining measurements will be made. Ground water supplies located within 500 feet (measured horizontally) of the perimeter of the active longwall panel will be monitored as if they were located on the panel. Monitoring will be continued for at least one year subsequent to full recovery mining contingent upon review by the Division of Mineral Resources Management. Daily precipitation data will be submitted quarterly to evaluate spring flow.

#### 2. Surface Water Monitoring Plan

Various surface water locations depicted on the application/hydrology map will be sampled monthly for flow and quarterly for quality. The quality requirements of OAC 1501:13-3-14(F)(2) and the other QMR parameters as stated on the QMR report sheets will apply to the surface water analysis. Each surface monitoring station will be monitored for at least one year prior to full coal recovery mining. OVCC will continue monitoring for at least one year subsequent to full recovery mining contingent upon review by the Division of Mineral Resources Management. Daily precipitation data will be submitted quarterly to evaluate stream flow.

With each quarterly monitoring report of ground and surface water, a map depicting the progression of the longwall face will be attached to indicate the sampling points in the full recovery areas. Notes will be submitted indicating the position relative to the longwall face, with "+" indicating the station is in advance of the face and a "-" indicating a position behind the face. An attempt will be made to monitor and sample as outlined above; however, some sources may not be accessible. These locations, if encountered, will be documented in the quarterly reports. All samples will be taken as outlined to the extent that existing well construction allows. Any samples that are unobtainable will be documented as such in the quarterly report. Quarterly sampling will include analysis for nitrates.

OVCC will monitor all ground and surface locations in accordance with the quarterly monitoring plan outlined above regardless of the saturated zones that they access. All developed supplies have been identified and have been indicated on the application/hydrology map.

G. DIVERSIONS AND DRAINAGE CONTROLS - Permit Area

- (1) Will the proposed coal mining activities result in diversions of overland flow away from the disturbed areas? ☐ Yes, ☐ No. If "yes," describe, including maps and cross sections, the diversion to be constructed to achieve compliance with paragraph (I) of rule 1501:13-4-14 of the Administrative Code.
- (2) Will the proposed coal mining activities result in the diversion of intermittent or perennial streams within the proposed permit area? ☐ Yes, ☐ No. If "yes," describe, including maps and cross sections, the diversions to be constructed to achieve compliance with paragraph (I) of rule 1501:13-4-14 of the Administrative Code.
- (3) Will the proposed coal mining activities result in construction of diversions to direct runoff through a sediment pond or a series of sediment ponds? ☐ Yes, ☐ No. If "yes," submit an addendum to describe, including maps and cross sections, the diversions to be constructed to achieve compliance with paragraph (I) of rule 1501:13-4-14 of the Administrative Code.
- (4) Indicate which of the following are proposed to be constructed within the proposed permit area and submit as an addendum the detailed design plans for each structure in accordance with paragraph (H) of rule 1501:13-4-14 and 1501:13-9-04 of the Administrative Code.  
☐ Sedimentation pond(s) (submit Pond-Impoundment Plan)  
☐ Water impoundment(s) (submit Pond-Impoundment Plan)  
☐ Other (specify) \_\_\_\_\_
- (5) Submit an addendum describing the plan for the control of water drainage into, through, and out of the proposed permit area. If applicable, submit as an addendum any request for variances pursuant to paragraphs (B) and (E) of rule 1501:13-9-04 of the Administrative Code.
- (6) Describe the treatment, when required, of ground and surface water drainage from the area to be disturbed by the proposed coal mining activities

**N/A – No Surface Permit Area**

H. PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES - Permit and Planned  
Subsidence Area

Will the proposed coal mining activities adversely affect any public parks and places listed on the National Register of Historic Places? \_\_\_ Yes, X No. If "yes," submit an addendum describing the measures to minimize or prevent these impacts.

I. MINING NEAR OR THROUGH A PUBLIC ROAD - Permit Area

If the response to Part 1, item D(6) of the permit application is "yes," submit an addendum describing the measures to be used to ensure that the interests of the public and landowners are protected.

N/A

J. SUBSIDENCE CONTROL SURVEY - Shadow Area

- (1) Is this a full coal recovery operation? X Yes, \_\_\_ No. If "yes," complete Subsidence Control Survey and following items J (2) and (3).
- (2) Does the shadow area contain any of the structures or facilities listed in 1501:13-12-03(J)(1-3)? \_\_\_ Yes, X No. If "yes," complete Subsidence Control - Protection of Specific Structures, and specifically identify the structures or facilities on the application map.
- (3) Are any aquifers or bodies of water that serve as a significant water source for any public water supply system present in the shadow area? \_\_\_ Yes, X No. If "yes," complete Subsidence Control - Protection of Specific Structures, and specifically identify the areas on the application map.

K. SUBSIDENCE CONTROL PLAN - Shadow Area

- (1) Submit an addendum that describes the method of coal removal, and indicates the size, sequence, and timing of the development of the underground workings.  
**SEE ADDENDUM TO PAGE 27, K(1)**
  - (2) Utilizing the application map, specifically indicate areas where planned subsidence mining methods (i.e. longwall or pillar extraction) will be used.  
**SEE APPLICATION MAP**
  - (3) Utilizing the application map, specifically indicate room-and-pillar mining areas where subsidence will be prevented or minimized.  
**SEE APPLICATION MAP**
- K. (4) Submit as an addendum, for those areas mapped as room-and-pillar mining, the following information:  
**SEE ADDENDUM TO PAGE 28, K(4)**
- (a) The maximum and average overburden thickness.  
**Max. overburden = 585', Ave. overburden = 414.5'**
  - (b) The projected maximum extraction ratios for mains, submains, and butt sections, as well as the existing ranges of values for the same areas.  
**Max. projected extraction ratio = 35%**
  - (c) Projected maximum width of entries and cross cuts throughout the mine, as well as the existing ranges of values for the same areas.  
**Max. projected entry and cross cut width = 18'**
  - (d) The center spacing for entries and cross cuts. **150' x 68' c-c**

**OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT**

**SUBSIDENCE CONTROL SURVEY**

Applicant's Name: The Ohio Valley Coal Company

Surface Owner	County	Township/Section	Renewable Resources	Structures-Use	MAP LOC. KEY (Structures)
<u>D.W. Carlier</u>	<u>Belmont</u>	<u>Goshen / 9</u>	<u>Woodland</u>	<u>T.R. 195</u>	<u>17-51</u>
<u>K.M. Levi</u>	<u>Belmont</u>	<u>Goshen / 9</u>	<u>Cropland Woodland</u>	<u>None</u>	<u>17-52</u>
<u>M.A. &amp; S.L. Gossett</u>	<u>Belmont</u>	<u>Goshen / 9</u>	<u>Streams Dev. Spring Wells Und. Springs Woodland Cropland Pasture</u>	<u>T.R. 196 Garage</u>	<u>16-39 DS-472 W-732, DW-733</u>
<u>H.R. &amp; C.P. Lane, et al</u>	<u>Belmont</u>	<u>Goshen / 9</u>	<u>Well</u>	<u>T.R. 196</u>	<u>17-46 W-691</u>
<u>R.E. Conner</u>	<u>Belmont</u>	<u>Goshen / 9</u>	<u>Woodland Stream</u>	<u>T.R. 199</u>	<u>17-53</u>
<u>M.R. &amp; R.A. McFarland</u>	<u>Belmont</u>	<u>Goshen / 9</u>	<u>Woodland</u>	<u>T.R. 195</u>	<u>18-48</u>
<u>T.L. &amp; V.M. Kemp</u>	<u>Belmont</u>	<u>Goshen / 3 &amp; 9</u>	<u>Woodland Und. Spring Stream Dev. Springs</u>	<u>T.R. 196</u>	<u>16-35 U38-018 DS-440A DS-440B</u>
<u>C.F. &amp; K.P. Swallie</u>	<u>Belmont</u>	<u>Goshen / 9</u>	<u>Woodland Dev. Spring</u>	<u>T.R. 199 House Barn Outbuilding Springhouse</u>	<u>17-50 DS-469</u>
<u>T. &amp; L. Lucas</u>	<u>Belmont</u>	<u>Goshen / 9</u>		<u>T.R. 195 &amp; 199</u>	<u>18-49</u>

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### ENGINEERING AND MINING TECHNIQUES

The Powhatan No. 6 Mine is an operation that uses the longwall method of mining. For those areas mapped as longwall areas, the engineering and mining techniques for longwall mining are as follows:

#### Longwall Mining

1. Longwall mining removes long panels of coal that are 600 to 1000 ft wide and a maximum of approximately 15,000 ft. long. A longwall shearer, a double-drum machine, removes the panel by cutting slices of coal along the width of the face. The roof is temporarily supported by hydraulic supports called shields. The shields are moved forward each time that a slice is cut from the face. The coal is transported from the face by an armored, chain conveyor.

The roof behind the shields is allowed to collapse. Surface subsidence on the order of approximately 66 percent of the mining height occurs when the roof falls.

2. The longwall face is outlined by three or four entries on each side called gate entries, on the end where the panel starts by several entries called bleeder entries, and on the panel end by the main entries or by recovery rooms (entries developed to remove the longwall mining equipment). These entries are developed using a continuous miner, shuttle cars, and roof bolters. Pillars and concrete block stoppings separate each entry from the next. These entries provide ventilation and belt haulage for the longwall mining section, with a maximum recovery of less than 50 percent of the coal. Coal pillars between the longwall panels crush after both adjacent longwall panels are extracted. Subsidence of the surface occurs over these panels and pillars during longwall mining as a result of the pillars crushing and from the extraction of both adjacent longwall panels.

#### Main Entry Development - Longwall Access

There will be one set of main entries driven in a general north-south direction. The main entries consist of approximately seven entries, driven with continuous miners and are primarily used for ventilation, transportation of men and materials, and haulage. These entries are designed for long-life with the pillars providing roof support. The maximum recovery factor for mains and sub mains is below 50 percent and is much less if one considers the barrier blocks left in place at the approaches to butt and longwall sections.

THE OHIO VALLEY COAL COMPANY  
POWHATAN NO. 6 MINE  
PERMIT D-0360  
ADDENDUM TO PAGE 27, (K)(4)

ENGINEERING PROPERTIES FOR DEVELOPMENT ENTRIES

Room-and-pillar mining is used to surround panels for the longwall panels. Engineering properties are presented for the gate entries planned for this application area. The maximum overburden is 550 ft. and the average is 375 ft. The projected maximum extraction ratio is 35 percent. Gate entries are to be driven a maximum of 18 ft. wide with entry centers projected to be 68 ft and crosscut centers projected to be 150 ft. Pillar dimensions will be approximately 132 ft x 50 ft. The extraction ratio for the gates is 35 percent, and the stability factor is 2.5.

The structural contour map with this application indicates the coal elevation (bottom) in the application area to be 720 to 840 ft. (msl). The strength of the coal is 850 psi. The floor primarily consists of shale or calcareous shale, with an occasional thin bed of claystone. In compressive strength tests for application D-0360-12 and -13, the compressive strength of the shale was found to be 5,034 to 9,453 psi and for the calcareous shale, 9,444 to 12,590 psi. These shale units frequently contain limestone nodules. Since the strength of the coal is much less than the strength of the floor rock, the stability factor for the coal will determine the stability of the mine.

The compressive strength of the coal is generally accepted to be 4,330±600 psi. The strength of the Pittsburgh (No. 8) coal in this area was determined by Professor Charles Holland years ago with the use of 3 in. cube specimens. The design strength was found to be 4330 psi. Professor Holland and others have found that, due to the cleavage planes and other natural seam defects, the in-situ compressive strength for a 6½ ft. seam is 850 psi.

There will be no measures taken on the surface to prevent damage or lessening of the value or reasonably foreseeable use of the surface since extraction ratios will be low. No surface damage is anticipated.

Pillars have been designed with minimum safety factors of 1.3 for butt sections. In mains, a minimum safety factor of 2.0 is used. The following data was used to design the pillars in the application area:

Coal Constant	7,500
Coal specimen size	3 in. cube
Anticipated Maximum Mining Height	6.5 ft.
Worst case safety factor	
Mains	2.0
Butts	1.3
Maximum Depth	600 ft.

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Pillar design at the Powhatan No. 6 Mine is performed with the use of computer software. This program makes use of a modified Holland-Gaddy formula with data input that is specific for the No. 6 Mine. No actual calculations are performed by hand because they are long and complicated with much room for error. The Holland-Gaddy formulae shown in the guidelines for Attachment 32 may be used to determine the pillar strength, load on the pillar, and the safety factor. These formulae are shown below.

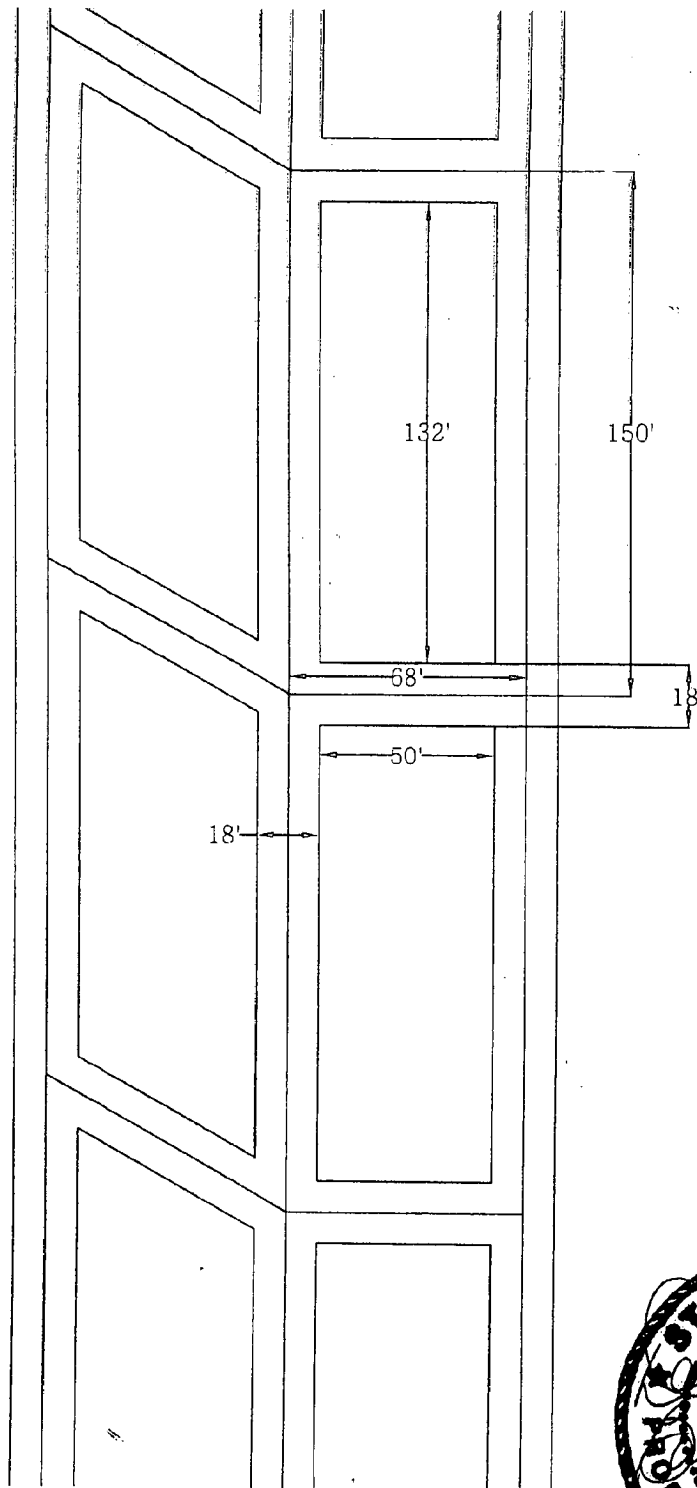
$$\text{Pillar Strength} = P_s = \frac{KL^{1/2}}{H}$$

$$\text{Pillar Load} = P_l = \frac{At}{A_p} = \frac{RD}{144}$$

$$\text{Safety Factor} = SF = \frac{P_s}{P_l}$$

The Powhatan No. 6 Mine is an extremely dry mine, with nearly all of the water that is found underground resulting from the mining process. There is no water pumped outside from the active mining areas of the No. 6 Mine, although some water is pumped from the bottom of airshafts. This water is essentially ground water collected behind the lining of the shaft. Therefore, water is not expected to impact the roof, floor, or coal strata. This condition is expected to continue indefinitely. If water does inundate the mine at some time in the future, it is not expected to cause ground control problems due to the large size of the pillars that will remain. Past problems with unplanned subsidence resulted from small pillar size and large quantities of water around very soft bottom rock. If the mine becomes flooded and inundates the roof rock, the immediate roof members will swell and collapse into the mine void. However, the falls of immediate roof does not adversely affect the surface. Above the immediate roof is the Redstone Limestone averaging 15 ft. in thickness. This member consists of multiple beds of limestone separated by shale and claystone partings. The limestone beds are hard, fairly massive in texture (without stratification) ranging in thickness from 2 to 11 ft. each. The partings are commonly 3 to 13 in. thick, with some reaching 24 in. The partings occur randomly throughout the application area. This member will provide long term support if the immediate roof should collapse into the mine void. The coal is not affected by the presence of water.





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 GATE ENTRY CONFIGURATION  
 SCALE: 1" = 50'

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EVALUATION OF PILLARS FOR APPLICATION D-0360-16

HOLLAND FORMULA

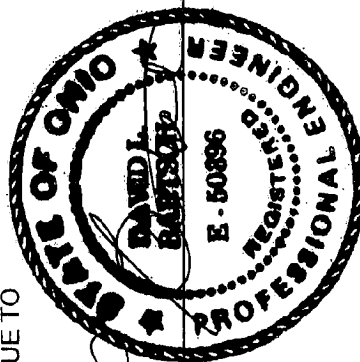
PILLAR STRENGTH = $PS \times \sqrt{PW/H}$		STABLE $SF > 1.5$ MARGINAL $1.3 < SF < 1.5$ UNSTABLE $SF < 1.3$
PILLAR LOAD = $D \times L / (1-ER)$		
PILLAR STABILITY FACTOR = PILLAR STRENGTH/PILLAR LOAD		

OB LOADING	1.125 PSI/FT	(L)
COAL STRENGTH	850 PSI*	(PS)
MINING HEIGHT	6.5 FT	(H)

(PW)				(D)	
PILLAR	LENGTH	WIDTH	LEAST	COVER	PILLAR
	FT	FT	SIDE	FT	
1	132	50	50	550	

PILLAR AREA SQ FT	6600	TRIB AREA SQ FT	10200	(ER) EXTR RATIO	35%	PILLAR STRENGTH PSI	2357	PILLAR LOAD PSI	956	PILLAR STABILITY FACTOR	2.5	PILLAR CONDITION (STABILITY)	STABLE
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\* - COAL STRENGTH OF 850 PSI BASED ON LOCAL TESTING OF NO. 8 SEAM COAL SAMPLES.  
THIS STRENGTH IS USED RATHER THAN THE RECOMMENDED 900 PSI VALUE TO  
RENDER A MORE CONSERVATIVE PILLAR STABILITY FACTOR.



*David L. Bartsch*  
DAVID L. BARTSCH, P.E.

- (e) Minimum pillar dimensions for mains, submains, and butt sections, as well as the existing ranges of values for these areas. **132' x 50'**
- (f) The barrier pillar width between butt sections, as well as the existing ranges of values for the same areas. **N/A**
- (g) The engineering properties of the clay/shale, or other soft rock material in the roof and floor of the mine. **See Addendum to Item K(4)**
- (h) Measures to be taken on the surface to prevent damage or lessening of the value or reasonably foreseeable use of the surface, if any. **N/A**
- (i) The minimum pillar safety factor, for protected structures, based upon coal strength and load. **(2.5:1)**
- (j) Methods and calculations used to determine the safety factor. **Holland See Calculations in Addendum to Item K(4)**
- (5) Submit as an addendum for those areas mapped as full coal recovery mining, the following information:
  - (a) For each method to be employed (i.e. longwall or pillar extraction), provide the following:  
**SEE ADDENDUM TO PAGE 28, K(5)(a)**
    - i) Rate and direction of dip for the coal seam.  
**30 FT/ MI S30°E**
    - ii) Dimensions of panels or butt sections.  
**600-1000 FT X UP TO 10000 FT**
    - iii) Thickness of coal to be extracted (mining height).  
**5.5 FT**
    - iv) Maximum angle of draw.  
**24°**
    - v) Maximum anticipated subsidence.  
**3.5-4 FT**
    - vi) Width of barrier pillars or chain pillars between sections or panels.  
**N/A**
    - vii) The maximum extraction ratio within a pillaring section.  
**N/A**
  - (b) The anticipated effects of planned subsidence upon the land and water resources identified in the subsidence control survey and survey of ground and surface water resources.  
**SEE ADDENDUM TO PAGE 28, K(5)(b)**
  - (c) The measures to be taken to mitigate the anticipated effects of planned subsidence to the land and water resources.  
**SEE ADDENDUM TO PAGE 28, K(5)(c)**
  - (d) The anticipated effects of planned subsidence upon the structures identified in the subsidence control survey.  
**SEE ADDENDUM TO PAGE 28, K(5)(d)**

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ANTICIPATED EFFECTS OF PLANNED SUBSIDENCE

General

The anticipated surface effects of subsidence during and following coal extraction by the longwall method at the Powhatan No. 6 Mine are related to the following movements of the ground surface:

1. Vertical subsidence
2. Horizontal movement

The combination of vertical and horizontal movements of points on the ground surface leads to tensile (or extension) and compression strains from curvature of the ground surface and tilt. Extension and compression of the ground surface, in the direction of the movement of the longwall face, occur as the face moves in the direction of mining. The extension and compression effects develop after passage of the longwall face. The surface curvature, with resulting extension and compression, and the tilt near the ends of a mined panel and along the sides of a mined panel, represent the permanent effects of subsidence.

There are temporary effects of subsidence from what is known as the dynamic subsidence wave. This wave begins about five days prior to undermining. As the surface begins to subside, the land goes into tension. Tension cracks result on the land surface in some locations (depending on the soil type and topography). Immediately after undermining, the land begins to subside rapidly and goes into compression. Generally, the magnitude of the compressive forces does not reach the magnitude of the tensile forces, and some cracks remain open until the weather (usually rain) fills them. These temporary effects pass very quickly due to the speed of the longwall mining at the Powhatan No. 6 Mine.

Background

The panel dimensions are approximately 600 to 900 ft. wide and up to 15,000 ft. long. The gates are approximately 140 to 200 ft. wide between panels (typically 156 ft). The coal thickness to be extracted is approximately 64 in. throughout most of the application area. There is approximately 19 to 49 percent of the overburden classified as hard rock according to the test hole data.

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Subsidence Monitoring Summary

Subsidence has been monitored on four separate occasions, each for a different purpose. The initial monitoring, performed over the 5 West longwall panel, indicated that the total subsidence was 64 percent of the mining thickness and the angle of draw was measured to be 13 degrees from the side of the panel. The second monitoring performed over the 10 West and 11 West panels was done to confirm the earlier work but also to show subsidence that occurs over the gate entries. The earlier work was confirmed by this second round, with the percent of subsidence being 65 and 67 percent, (respectively) of the mined thickness and the angle of draw again being 13 degrees from the side of the panels. The monitoring also showed that the pillars crush between the adjacent longwall gobs resulting in over one foot of subsidence in this area. The third time subsidence was monitored; the data was used to show the timing of subsidence. Two adjacent panels (26 West and 28 West) were monitored and showed that in the center of the panels, subsidence was over within about 5 days. At panel edges, the subsidence was completed in about 10 days. The angle of draw in the third round of monitoring was found to be 15 degrees from the side of the panels, with the amount of subsidence being 69 percent (for both panels) of the extracted thickness. Again, the pillars between the panels crushed resulting in over one foot of subsidence in this area. In both of the latter two rounds of monitoring, subsidence extended well into the previously mined panel. Structures located closer than the midpoint of the previously mined panel will be subject to additional subsidence when the adjacent panel is mined. The fourth round of monitoring was performed to determine the angle of draw at the beginning of a longwall panel. Baselines were established at the beginning of two longwall panels to determine the angle of draw off the beginning of the panels. The three baselines monitored to date indicate the angle of draw to be 23.9 degrees, 22.2 degrees, and 21.6 degrees. This higher angle of draw for the ends is believed to be the result of two factors: More sophisticated surveying equipment and closer spacing for surveying monuments. The baseline-monitoring program is ongoing. Table S-1 shows the results, which have been presented in previous applications, most recently, D-0360-12.

Table S-1  
Subsidence Monitoring Data

Monitoring Round	Panels	Angle of Draw	Degree of Subsidence (%)	Subsidence when Pillars Crush Between Panels	Time of Subsidence
1	5 West	13°	64		
2	10 West	13°	65	N/A	
2	11 West	13°	67	>1 ft	
3	26 West	15°	69	N/A	5 Days – Panel Center 10 Days – Panel Edges
3	28 West	15°	69	>1 ft	5 Days – Panel Center 10 Days – Panel Edges
4	19 West	23.9°	N/A	N/A	
5	18 West	22.2°	N/A	N/A	
6	16 West	21.6°	N/A	N/A	

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Other Observations

Some horizontal movement occurred in steeply sloping ground where several slips occurred. These slips were mainly in slip-prone soils and were limited to the upper soil zone. Near the center of the panel, the ground moved upwards in several small areas after subsidence as the compressive strain caused the soils to heave upward. Surface cracking up to about six inches wide occurred during the time the areas were put under tension. This surface cracking has been limited to only a few small isolated areas, where they generally closed due to compressive forces and to rainfall. Most cracks were less than 1 in. wide. Where cracks in soil were found that were wide enough to be considered hazardous, they were repaired immediately by OVCC.

Shear and twisting strains have never been observed on any structure at the Powhatan No. 6 Mine. Twisting and shearing occur when a structure is located immediately adjacent to a corner of a longwall panel within the angle of draw according to Dr. Syd S. Peng, Professor of Mining Engineering at West Virginia University. According to Dr. Peng, "If the structure is inclined to the permanent panel edge, it will be subjected to twisting and shearing resulting in damage." There have been no structures in this position to date at the No. 6 Mine.

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### ANTICIPATED EFFECTS OF PLANNED SUBSIDENCE

#### Effect on Water Resources

The effect of subsidence on water resources varies greatly. The effect on wells, streams, streams, and other surface water each differ in the type and duration of effects. Each will be discussed below.

#### Wells

Depending upon the depth of the well, its location within the longwall subsidence area, and its surface elevation compared to the elevation of the coal, the effect of subsidence on wells may vary from complete de-watering to some de-watering to no de-watering. Generally, as the subsidence opens new places for the ground water to go, the elevation of the water decreases. The ground water is still present, but at a lower elevation. Aquicludes prevent further downward migration of water into the mine. In addition, the soft rock, particularly the clay stones in the strata, tend to swell, erode, and fill voids, causing some recovery in the elevation of the water. Wells may become completely dry permanently, may become completely dry temporarily, may hold less water, or as has been experienced in some instances, may not be affected. In some cases, the water level actually increases temporarily. This effect is caused by the strata being placed in compression and closing some of the joints, cracks, or bedding planes (secondary porosity features) that hold the water. However, as a general rule, the water level in wells decreases. As new surfaces are opened that water begins to flow over, the quality of the water also varies, usually temporarily. Normally, some increase in suspended solids, iron, manganese, and sulfates has been observed. These effects usually return to near normal after the water "washes" out the new chemicals.

#### Springs

Springs, given the fact that they are located on the surface, generally decrease in flow and usually dry completely with little or no recovery. The water stops flowing because it is no longer at the elevation of the surface installation. The water begins to flow horizontally, through different bedding planes, than before subsidence, and can and has been developed, successfully, as a spring at a lower elevation. Water quality varies as with wells. However, because of the increased porosity of the strata, springs developed over longwall panels, generally have higher flows.

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Streams

Generally, streams are temporarily affected by subsidence, decreasing in flow as cracks open in the streambed. However, because the streams contain a high concentration of sediment during rains, the cracks fill quickly and the effect is short lived. The water re-establishes itself within several months. Streams in this area begin as undeveloped or developed springs near the head of hollows and are fed throughout its length by springs and surface runoff. Streams that are fed by springs near the head of hollows continue to receive this groundwater, but at a lower elevation. Since rainfall is unaffected by subsidence, runoff continues to supply the water for streams.

Other Surface Water Features

Ponds primarily are the other surface water feature in this area. Our experience at the Powhatan No. 6 Mine has been that ponds are not substantially affected by subsidence in this area. Several ponds have been undermined with no visible effects. Cisterns, catch basins, etc. have been unaffected to date.



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ANTICIPATED EFFECTS OF PLANNED SUBSIDENCE – SURFACE LANDS AND  
WATER RESOURCES

Tension cracking of the ground surface may occur. These cracks in the surface may vary in width from hairline, up to several inches wide. OVCC believes that there will be no effect on the crop production as a result of mining. This fact is supported by a paper written by Dr. Frank L. Himes, Ph.D., entitled "Agronomic Evaluation of the Land in the Southern Ohio Coal Company Area", June, 1983. A copy is included in previous applications available to the Chief.

Slip-Prone Soils

A search of the Belmont County Soils Maps (specifically Map No. 51 and 52) \* revealed several potential slide/slip areas within the following soil types: LoE, and LoF.

These areas have been mapped on the enclosed map showing the limits of the application area and slip prone soils. Please note - the Soil Survey of Belmont County does not describe subsidence as a source of potential slippage. Rather, it notes soil types that are slip prone for construction sites. Of the types of slip-prone soils identified, only LpF (Lowell-Westmoreland silt loam) has been known to be slip prone during longwall mining-induced subsidence in some areas. Other soil types have been undermined before without slippage occurring.

During the pre-subsidence survey, areas known to be slip prone during subsidence, as well as other similar sites that may have a significant impact to existing structures, may be inspected. Should conditions dictate, site-specific measures, not limited to but including installation of cut-off trenches, drainage systems, and retaining walls, may be taken to minimize adverse effects.

\_\_\_\_\_  
\*Soil Survey of Belmont County  
ODNR, USDA March, 1974

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Effect on Wetlands

Wetlands have been undermined at the Powhatan No. 6 Mine without incident. Enclosed is the summary of the Simpson wetland that was undermined during March 2001. Monitoring of the site was performed by an environmental professional beginning in September 1999 and concluded in November 2002. No effects of the planned subsidence were observed.

The D-360-12 area contains five wetlands. These are or have been monitored quarterly beginning one year prior to mining and commencing one year post mining by an environmental professional. Designated wetlands 2, 4, 5 and 6 were initially evaluated in November and December 2003. Wetland number 1 was later added in December, 2004. The quarterly reports summarized field conditions observed supported by photographs of key features at each site.

All of these wetlands have now been undermined. Monitoring has been completed for wetlands 2, 4, 5 and 6. Monitoring of wetland number 1 was completed in the 4th Quarter, 2006.

To-date, there have been no adverse affects noted to any wetlands vegetation in either species or their aerial extent as a result of undermining. The only impact observed was the temporary diminution of surface water hydrology. Springs and/or channel flow were disrupted following initial ground disturbance from undermining. The most acute areas were wetlands 5 and 6. Surface water was partially restored here within two quarters after mining. These areas have since experienced progressive improvement each quarter thereafter.

Effect on Streams Containing Fish

Several streams containing fish (minnows primarily) have been undermined by the longwall at the Powhatan No. 6 Mine. In some cases, the streams are un-affected by subsidence. In other cases, the stream goes dry temporarily, usually until the next major storm. In all cases, normal stream flow returned. No fish have been killed as a result of the stream going dry temporarily. Streams normally go dry or nearly dry for a portion of the year and fish that live there migrate downstream, only to return during the wet season.

Effects on Other Streams

Since 1990, The Powhatan No. 6 Mine has undermined over 50,000 feet of streams, including ephemeral, intermittent, and perennial streams. Impacts to streams vary according to many factors, including depth of cover, the order (drainage area size) of the stream, topography, rainfall for a period following undermining, etc. In general, streams recover within several years after subsidence proceeds under a stream.

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It is believed that streams are impacted through two mechanisms: Fracturing of bedrock and disruption of stream gradient. When the longwall mines through an area, subsidence occurs. The land subsides immediately after the longwall advances past a point. OVCC's monitoring shows that subsidence is complete within five to ten days after mining is complete. As the ground subsides, it experiences tensile and compressive forces such that existing cracks may be opened or closed, and new cracks form due to the tensile forces. In general, the additional cracking that occurs from the subsidence "wave" may cause a stream to go dry temporarily.

Subsidence occurs more in the middle of a longwall panel, compared to the sides or ends. This "differential subsidence" disrupts the gradient of the stream to where water can be observed flowing and then it disappears when the downstream bed is higher than the upstream segment. It is not uncommon to have water pool upstream of gate entries. In a few locations, the middle of the panel moves upward as the ground around it is put into compression, causing a localized "high spot." During high-flow periods, the gradient is re-established naturally.

Recently, OVCC conducted a study of streams undermined by OVCC's longwall operations. In the last several years, The Powhatan No. 6 Mine has undermined several streams. We concentrated our efforts on main streams that were undermined within the last six years. We discovered that approximately 89 percent of the nearly 50,000 ft of streams were flowing. This evaluation was performed in September 2006 when flow conditions were low. There had been no rain for several days, so we believe that the conditions were appropriate for this evaluation.

MEASURES TO MITIGATE ANTICIPATED EFFECTS TO LAND AND WATER

Damage Repairs - Wetlands

To date no repairs have been required for wetlands. None are anticipated.

Damage Repairs – Streams Containing Fish

To date, no repairs have been required for streams containing fish. None are anticipated.

Damage Repairs - Surface Lands

If subsidence due to mining operations causes slippage, which reduces the value or reasonably foreseeable use of the surface land, OVCC will restore the land to a condition capable of supporting uses it was capable of supporting before subsidence. If slips were triggered by mining activities, these areas would be stabilized in accordance with accepted site-specific procedures for such work if technologically and economically feasible. If not feasible, OVCC will arrange alternative mitigatory measures.

1. Notwithstanding its mining rights and without waiving nor releasing any of its rights, OVCC will make repairs of damage caused to surface lands by OVCC's mining operations if the damage reduces the foreseeable use or value of the surface lands. If such damage occurs, OVCC will submit to the Chief within thirty days after the damage occurs:
  - a. Site specific plans for the repair or mitigation of the damage, including a time schedule for performance of the remedial action.
  - b. A request for more time to prepare such plans; or
  - c. Written notification that OVCC believes that repair or restoration measures are not technologically feasible. If the owner does not desire repair or restoration measures or if repair or restoration measures are not technologically feasible, other mitigatory measures will be described.
2. Damage to surface land will be repaired by local contractors. As surface damage occurs, the landowner will be notified and permission to repair the damage will be requested. Surface cracks will usually be repaired by the following method: After the length of the

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subsidence crack has been determined, a trench will be made in the crack. During the excavation topsoil will be segregated from subsoil and rock. Upon completion of the

excavation, the material will be compacted using the track of the bulldozer or the wheel of the backhoe. Once the soil material has been replaced, the area will be seeded in a hayfield, pasture field, or a yard.

OVCC will employ a program to monitor surface cracking and settling resulting from subsidence. Areas being mined will be inspected at various intervals, ranging from daily to weekly. These areas will be visually inspected for any subsidence related problems. If a problem is found, the landowner will be notified immediately.

In most cases, surface cracks are expected to open and close relatively rapidly, however, some surface cracks may take weeks to close. For this reason, most cracks will not be repaired until OVCC determines that the cracks are not going to close themselves. If the surface cracks are in an area that is commonly traveled by man or livestock, the cracks will be repaired immediately. Surface cracking that is found in areas not commonly traveled, may be marked by brightly colored tape. This tape alerts anyone in the area of the depression or opening. If the cracks do not close within the period of time OVCC determines is adequate, a contractor will repair the cracks.

Monitoring of these areas will continue for up to six months after mining, and if the cracks reopen, they will once again be repaired. Monitoring of panel areas before mining consists of visual inspection or aerial photo review. OVCC's subsidence control program will adequately assure that the value and reasonably foreseeable use of the surface land is maintained.

3. Prior to the introduction of farm equipment into fields that have been undermined, OVCC will inspect the field for cracks or slips if requested by the landowner. Repairs needed (to maintain access into the fields) will be made at appropriate times. Croplands damaged by subsidence will be repaired at appropriate times to permit harvest or cultivation without damage to personnel or equipment. Note: "appropriate times" indicates that the repairs will be made 1) at a time when access is needed and 2) when damage to adjacent plants will be minimized.

#### Damage Repairs - Streams

Since 1990, The Powhatan No. 6 Mine has undermined over 50,000 feet of streams, including ephemeral, intermittent, and perennial streams. Impacts to streams vary according to many factors, including depth of cover, the order (drainage area size) of the stream, topography, rainfall for a period following undermining, etc. In general, streams recover within several years after subsidence proceeds under a stream.

It is believed that streams are impacted through two mechanisms: Fracturing of bedrock and disruption of stream gradient. When the longwall mines through an area, subsidence occurs. The land subsides immediately after the longwall advances past a point. OVCC's monitoring shows that subsidence is complete within five to ten days. As the ground subsides, it experiences tensile and compressive forces such that existing cracks may be opened or closed, and new cracks form due to the tensile forces. In general, the additional cracking that occurs from the subsidence "wave" may cause a stream to go dry temporarily. After several months, and following several significant rainfall events, naturally occurring sediment fills the cracks and the streams tend to heal themselves following subsidence. Since the streams are located at low elevations, the naturally occurring confining pressures from the surrounding hillsides tend to close the cracks as well. Flow is re-established after several months when sufficient rainfall has occurred to fill any cracks and to replenish the water table to allow water to rise into the streambed.

Subsidence occurs more in the middle of a longwall panel, compared to the sides or ends. This "differential subsidence" disrupts the gradient of the stream to where water can be observed flowing and then it disappears when the downstream bed is higher than the upstream segment. It is not uncommon to have water pool upstream of gate entries, requiring some minor re-grading of the stream to re-establish the gradient for the entire length of the stream. In a few locations, the middle of the panel moves upward as the ground around it is put into compression, causing a localized "high spot." During high-flow periods, the gradient is re-established naturally. Occasionally, some fieldwork is necessary so the process occurs faster.

Recently, OVCC conducted a study of streams (all types – perennial, intermittent, ephemeral) undermined by OVCC's longwall operations. In the last several years, The Powhatan No. 6 Mine has undermined several streams. We concentrated our efforts on main streams that were undermined within the last six years. We discovered that approximately 89 percent of the nearly 50,000 ft of streams were flowing. The remaining 11 percent are located in remote areas requiring some gradient work to re-establish flow for the entire length of the stream. This evaluation was performed in September 2006 when flow conditions were low. There had been no rain for several days, so we believe that the conditions were appropriate for this evaluation. Table 1 shows the results of the field evaluation.

OVCC has only done minor re-grading on portions of streams that are used for agricultural supplies to date. With some additional fieldwork, it is likely that other portions of these streams will recover fully.

**Table 1 Stream Recovery 1999 – 2005**

<b>Mined From</b>	<b>Mined To</b>	<b>Total Length (ft)</b>	<b>Non-Flowing Length (ft)</b>	<b>Flowing Length (ft)</b>	<b>Percent Flowing</b>
Sep-05	Sep-06	1121		1121	100%
Sep-04	Sep-05	6555		6555	100%
Sep-03	Sep-04	19172	-3094	16078	84%
Sep-02	Sep-03	10112	-388	9724	96%
Sep-01	Sep-02	4968	-1337	3631	73%
Sep-00	Sep-01	5430	-554	4876	90%
Sep-99	Sep-00	2501		2501	100%
SINCE SEP-99	Totals	49859	-5373	44486	89%

Stream flow appears to be independent of time, and appears to be more dependent on establishing the proper flow gradient. Streams undermined only one or two years before the study date (September 2006) were flowing for their entire length, as were streams undermined seven years before the study date. However, there were streams undermined only four years before the study date, where only 73 percent of the stream length was flowing. These latter streams had little re-grading work done to date. If these streams do not recover naturally, OVCC plans to re-establish the gradient of the stream.

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ADDENDUM TO PART 3, PAGE 28, K(5)(c)

PERENNIAL STREAMS - MITIGATION

Portions of Bend Fork, Packsaddle Run, and Joy Fork are shown as perennial streams. During subsidence, the area of the stream to be undermined will be inspected daily during subsidence to assure that there are no conditions that could result in an imminent danger to the health or safety of the public.



#### ANTICIPATED EFFECTS - SURFACE STRUCTURES

Structures situated over a panel or within the angle of draw may be damaged due to subsidence. When the longwall passes directly under a structure, the structure experiences first moderate tensile stress, then moderate compressive stress. As the structure subsides, the end that was undermined first subsides first, causing some tilting away from the advancing face. As the surface over the panel subsides, it takes on the shape of a trough, with the edges remaining in tension and the center in compression. Because the Powhatan No. 6 face moves quickly, damage to structures from this type of movement is minimized.

The damage that may be expected may involve cracking of plaster, cracking of concrete block or brick, cracking of dirt and cement floors, cracking along mortar joints, and separation of existing cracks. Cracks may close partially or completely after subsidence is complete. Additions to houses may separate away from the original structure. Cracks that occur during separation may close partially or completely after subsidence is complete.

Ponds may become partially dry temporarily as a result of subsidence-induced surface cracks. However, cracks in ponds have not caused de-watering to date at the Powhatan No. 6 Mine.

Silos have been undermined by the Ohio Valley Coal Company with no impacts to the silos. If undermining the silos poses a threat to life or property, Ohio Valley, prior to subsidence, will disassemble the silos, store them, and then make arrangements to restore them. If silos are used, Ohio Valley will arrange an alternate source of feed for livestock while the silo is not available for use.

#### Utility Installations

With respect only to utility installations passing over, under, or through a "permit area," Ohio Administrative Code 1501:13-11-02(B) requires that coal mining operations be conducted in a manner which minimizes damage, destruction, or disruption of services provided by such utility installations, unless otherwise approved by the Chief and installation owner. (See e. g., The East Ohio Gas Company v. Division of Reclamation, Case No. RBR-5-91-072 (March 19, 1992)). However, this application area does not include any "permit area." Gas pipelines, which traverse the application area, will be subject to tensile and compressive strains and, according to one pipeline expert, the pipeline coating (if any) could be damaged. Conceivably, the lines could break if left unprotected. If the lines remain buried during subsidence, the friction between the soil and the pipe may not allow the pipe to move freely as the subsidence trough develops. Some areas of the pipe will be placed in tension, others in compression. Protection of these lines is

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ADDENDUM TO PART 3, PAGE 28, K(5)(d)

addressed in Section K(5)(e) of this Addendum. The gas line located along State Route 9/147 on the west side of Centerville is a distribution line to local residents.

Other utility lines (water, electric, etc.) are generally unaffected by subsidence.

#### Roads

Since 1990 when Ohio Valley began to longwall mine, there have been no incidents of slips involving public roads of any sort. In fact, over 32 miles of public roads (state, county, and township) have been undermined by Ohio Valley. Public roads traverse the entire area that has been and is projected to be subsided. Ohio Valley posts bonds for all roads to be undermined. The effect of mining on public roads is limited to minor cracking of the pavement or road surface from tension and in a few instances, humping of the surface due to compression. In all instances, the roads have never been closed and repairs have been made by the governing authority and reimbursed by Ohio Valley. Roads are inspected frequently during subsidence, and Ohio Valley works closely with the governing authority throughout the mining and subsidence.

While the concentration of seepage in colluvial material is a common cause of landslides, it has never been observed to occur in conjunction with longwall mining at the Powhatan No. 6 Mine. Groundwater (particularly seeps) is addressed in the P<sup>2</sup> Technologies report entitled "Effects of Longwall Mining on Natural Slope Stability at Dysart Woods". Section 3.4 states that "Saturated slopes are more inclined to slope instability than unsaturated slopes. Fracturing of the rock formations caused by longwall mining will often lead to elimination of these seeps and springs." This report may be found in the D-0360-12 approved application. While this potential failure mechanism exists, it has never led to any road failures at Ohio Valley.

- K. (5) (e) The proposed measures to be taken to mitigate anticipated effects to structures.  
**SEE ADDENDUM TO PAGE 29, K(5)(e)**
- (f) The proposed measures to determine the extent of mining related damages including a presubsidence survey with an indication of the timing of the survey.  
**SEE ADDENDUM TO PAGE 29, K(5)(f)**
- (g) The provisions for repair and/or compensation for damages to structures.  
**SEE ADDENDUM TO PAGE 29, K(5)(g)**
- (h) Describe the monitoring, if any, needed to determine the commencement and degree of subsidence so that, when appropriate, other measures can be taken to prevent, reduce, or correct material damage in accordance with rule 1501:13-12-03 of the Administrative Code.  
**SEE ADDENDUM TO PAGE 29, K(5)(h)**
- (6) Will planned subsidence operations be conducted within the angle of draw of urbanized areas, cities, towns, communities, industrial or commercial buildings, major impoundments, or perennial streams? \_\_\_ Yes, X No. If "yes," describe any measures or activities that will prevent a condition or practice that could result in an imminent danger to the health or safety of the public.
- (7) Will planned subsidence operations be conducted within the angle of draw of transmission pipelines? \_\_\_ Yes, X No. If "yes," describe the procedural plan to avoid the creation of a situation of imminent danger to the health and safety of the public.

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ADDENDUM TO PART 3, PAGE 29, K(5)(e)

MITIGATING MEASURES – ANTICIPATED EFFECTS TO SURFACE STRUCTURES

Damage to Structures

OVCC uses planned subsidence that occurs in a predictable and controlled manner to mitigate subsidence damage. Ohio Valley mines as rapidly as possible to mitigate subsidence damage. On a site-specific basis, Ohio Valley may brace certain structures to further mitigate damage.

Damage to Public Roads

OVCC will notify the appropriate road authority at least six months prior to undermining the road. OVCC will inspect the areas around roads located on steep areas that could be subject to slippage and will repair surface cracks in these areas immediately if necessary to keep water from causing the soil to slip. In the event that roadways are permanently damaged by subsidence, OVCC, at the request of the road authority, will pay to repair the road surface to its pre-mining condition.

Damage to Public Roads

OVCC will notify the appropriate road authority at least six months prior to undermining the road. In the event that roadways are permanently damaged by subsidence, OVCC, at the request of the road authority, will pay to repair the road surface to its pre-mining condition.

Damage to Public Water Lines

OVCC will notify the owner of public water lines at least six months prior to undermining the lines. In the event that the pipelines are damaged by subsidence, OVCC, at the request of the public water line authority, will pay to repair the pipeline to its pre-mining conditions. As of May 2003, there have been 32.5 miles of public water lines undermined by longwall mining since January 1990. During that time, many types of water lines have been undermined, including asbestos-concrete lines, HDPE lines, and PVC lines. During this time period, only one (1) break occurred, and it was located at the start of a longwall panel. This pipe was an asbestos-concrete line, and the construction was such that the end of the pipe broke off when subjected to subsidence forces. There are no asbestos-concrete pipes located within the D-0360-12 application area. Should damage occur, however unlikely, the County repairs its own lines and Ohio Valley reimburses them.

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PAGE 2

Damage to Other Utility Lines

OVCC will notify the owner of other utility lines (electric lines and sub-stations) at least six months prior to undermining the lines to allow the utility to take measures that they deem necessary and proper to protect their property and the public health and safety. It is the sole responsibility of the utility owner to take further mitigative actions and to make repairs according to recent court decisions and decisions of the Reclamation Commission (formerly the Reclamation Board of Review). Ohio Valley works well with the owners of these utilities and will continue to provide them with the timing of the mining and subsidence as needed. There has been one substation that was undermined by the longwall (31 West Panel) in March 2001. There was no damage. Numerous electric lines have been undermined by the longwall at this mine; the most recent was from March through August 2001(31 West Panel), when a distance of 10,100 ft of line and towers were subsided. There was no damage.

MITIGATING MEASURES

Damage to Dairy Operation

1. This section covers any dairy operations that will be affected by OVCC's mining operations. If the dairy barn and milk house will experience subsidence, some surface and structural damage will be anticipated. It is the intention of OVCC to remove the coal under all structures, including the dairy barn and milk house on the dairy farm as rapidly as possible to minimize damage.

It is OVCC's experience that dairy farming, and especially milking, will not be interrupted by longwall mining subsidence. Several dairy operations have been undermined by OVCC without interruption of dairy farming. Nonetheless, OVCC will maintain, at OVCC's expense, the dairy farm in full operation by taking the following measures:

Prior to undermining the dairy structures, most particularly, the barn/milk house, OVCC will prepare the structure at OVCC's expense as follows:

- a. A water supply line from the County water line will be installed prior to mining in order to provide water on a continuous basis. This water line will be installed in such a manner that subsidence will not interrupt the flow of water.
- b. The electrical supply to the barn/milk house will be inspected and, if necessary, changed to permit the downward movement of the structure.
- c. The framework structure of the barn will be inspected to determine its ability to withstand the forces caused by subsidence. The barn will be shored and braced as necessary to allow the barn to undergo subsidence. Reinforcement measures will be used where practical in order to return the barn to pre-mining conditions after subsidence is complete.
- d. The milking system will be inspected to determine its ability to withstand the forces caused by subsidence. If necessary, rigidly held lines will be fastened with flexible couplings to permit movement of the barn and still permit the normal flow of milk to the bulk tank. All modifications will comply with State and County Health Department guidelines.

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ADDENDUM TO PAGE 29, (K)(5)(e)  
PAGE 2

- e. If necessary, the bulk milk tank will be placed on a low-profile platform that permits easy, ongoing leveling. The tank will be re-certified after this change is made at the expense of OVCC. The platform will be arranged to maintain adequate clearance over the tank.
  - f. If necessary, the compressors and coolant lines for the bulk tank will be inspected and retrofitted with flexible connections to permit the downward movement of the structure.
- 2. During mining under the barn/milk house, OVCC will provide the following services at OVCC's expense:
  - a. The barn/milk house will be inspected at least 2 hours prior to milking for damage that may impede normal milking operations. Minor repairs will be made to insure that the milking processes will occur normally. Specifically, the barn and related facilities (e.g., stanchions) will be maintained in a usable condition. Milk lines will be inspected for breakage and flow direction and any repairs will be made prior to milking. Compressors and refrigerant lines will be inspected and repairs will be made if necessary. The bulk tank will be re-leveled and re-certified prior to pick-up of the milk at OVCC's expense. The integrity of both the water and the electrical systems will be inspected and repaired prior to milking. Sufficient numbers of personnel qualified to do the inspection and repair work will be present before the milking begins. During milking, any necessary repairs will be made to allow the milking process to continue.
  - b. Following the milking, any additional repairs to the facilities not needed for milking will be completed. The requirements of the County and State Health Service Departments for a Grade A dairy farm will be maintained during subsidence at OVCC's expense, including the repair of doors, the barn floor, the barn cleaner, and the water system. If the barn cleaners cannot be maintained in operation, manual labor will be used to keep the barn clean.

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ADDENDUM TO PART 3, PAGE 29, K(5)(f)

NOTICE OF MINING,  
PRE-SUBSIDENCE SURVEY, MONITORING OF STRUCTURES

Notice of Mining

OVCC will mail written notice to owners and occupants of surface property or structures of OVCC intent to mine under such property or structures at least six months prior to any mining by OVCC under their property. Surface owner notification shall be performed in accordance with PPD Underground 90-1.

Pre-Subsidence Survey

A pre-subsidence survey of all structures to be undermined will be conducted by OVCC personnel or by someone contracted to do this work and will be used to determine the condition of the structures and facilities prior to the mining unless a private agreement exists between OVCC and the landowner. This survey may include, but not be limited to: still and video photography, land surveying, making various measurements, interviewing landowners, tenants, or other individuals, and making various drawings. This survey will be performed in accordance with Underground PPD 90-3. The pre-subsidence survey will be used to determine the extent of mining-related damage to all structures within the angle of draw of the full coal recovery operations. A post-subsidence survey will be done to compare the condition with the pre-mining condition. The pre-subsidence survey will be conducted within six (6) months of undermining the structures. The post-subsidence survey will be done at a time period mutually agreeable to both parties, but after the subsidence is complete.



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#### REPAIRS TO STRUCTURES

After mining, structures will be repaired or replaced as required by law or the owner will be compensated for the diminution in value to the extent required by law. A private agreement may be used to satisfy the requirements of OAC 1501:13-12-03. If repaired, structures will be returned to their pre-mining condition.

Repair of and compensation for damage under the terms and conditions of OAC 1501:13-12-03(F) and (H) can be determined only after review and analysis of the damage in each particular situation. OVCC will comply with all legal requirements if subsidence damage occurs. All remedial, restoration, or mitigatory actions required under this rule shall be performed as soon as practicable.

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ADDENDUM TO PAGE 29, (K)(5)(h)

Monitoring of Structures

After OVCC has completed its pre-subsidence survey, OVCC will notify the Division of Mineral Resources Management if a private agreement (pursuant to OAC 1501:13-12-03(E)) between OVCC and the landowner exists. If no agreement exists, the Division, after discussions with OVCC, will decide the need for any monitoring of the structure(s). If monitoring is required, OVCC will submit a plan for the monitoring. If, prior to subsidence, a private agreement is reached, OVCC shall be released from any and all monitoring requirements.

The deeds and deed rights presented as a part of Page 10 of the application and the addenda to that item and page, constitute valid agreements between OVCC and the surface owners. Therefore, no additional agreements are necessary.

## PART 4 FORMAT AND CONTENT

### A. FILING OF ADDENDA

If an addendum is needed to present the information required by the items in the permit application, the addendum is to be submitted with the permit application and each page, map, plan or other document in the addendum should include the applicant's name and indicate to what item the addendum applies. For example, "Addendum to Part 3, item K(2)Zebco Coal Company."

### B. Provide the information requested below for all technical data submitted in the application.

Identification of Technical Data (1)	Person and Organization that Collected Data and Date	Methodology for Collecting Data	Person and Organization that Analyzed Data and Date	Methodology Used to Analyze Data
Hydrologic Inventory	Kurt Stubbs, Quality Environmental Services, 7/03, 9/03, 8/03, 10/03, 2/04, 3/04, 4/05, 5/05	Water Sampling and Data Collecting	Kurt Stubbs, Quality Environmental Services, 7/03, 9/03, 8/03, 10/03, 2/04, 3/04, 4/05, 5/05	As necessary for parameters
Hydrologic Inventory	Richard Whitt, Tra-Det, Inc., 7/03, 9/03, 8/03, 10/03, 2/04, 3/04, 4/05, 5/05	Laboratory Protocol	Richard Whitt, Tra-Det, Inc., 7/03, 9/03, 8/03, 10/03, 2/04, 3/04, 4/05, 5/05	As necessary for parameters
Archeology – Underground	Kurt Stubbs, Quality Environmental Services, 7/03, 8/03	Interviews, Photographs, Sketches	Kurt Stubbs, Quality Environmental Services, 7/03, 8/03	Visual / Interview
Subsidence Control Survey	Kurt Stubbs, Quality Environmental Services, 7/03, 8/03	Interviews, Field Visits, Sketches	Kurt Stubbs, Quality Environmental Services, 7/03, 8/03	Visual / Interview
Drill Report – Underground	J. Miller & L.J. Hughes & Son, Inc., 12/94	Core Samples	Richard Whitt, TraDet, Inc., 12/94	As necessary for parameters

(1) The technical data is to be identified by referencing the particular item in the application for which the data was used in preparing the response (e.g. Part 2, B(1); Hydrologic Inventory; Part 4, A).

03/06

DNR-744-9009

- C. Provide the name, address, and position of officials of each private or academic research organization or governmental agency contacted in the preparation of the application for information on land uses, soils, geology, vegetation, fish and wildlife, water quantity and quality, air quality, and archeological, cultural, and historic features.

Name and Address of Official	Position of Official	Name of Agency/ Organization	Type of Information (e.g. Geology)
<b>Bill Haiker</b> <b>2045 Morse Road, Bldg.</b> <b>B-2, Columbus, Ohio</b> <b>43229-6693</b>	<b>Hydrogeologist</b>	<b>ODNR, Division of</b> <b>Water</b>	<b>Groundwater</b> <b>Inventory</b>
<b>Richard Whitt,</b> <b>P.O. Box 2019</b> <b>Wheeling, WV 26003-0219</b>	<b>Analyst</b>	<b>TraDet</b>	<b>Hydrologic Inventory</b>

03/06  
DNR-744-9009



# Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

**Division of Mineral Resources Management**

**John F. Husted – Chief**

**2050 E. Wheeling Avenue**

**Cambridge, Ohio 43725**

October 14, 2008

Mr. David Bartsch  
The Ohio Valley Coal Company  
56854 Pleasant Ridge Road  
Alledonia, OH 43902

RE: Adjacent Area Application D-0360-18

Dear Mr. Bartsch,

Per your request dated September 30, 2008, The Ohio Valley Coal Company's application for adjacent area application, D-0360-18 submitted on November 15, 2007, has been withdrawn.

If you have any questions, please contact me at (740) 439-9079 at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "Ginger A. Bennett".

Ginger A. Bennett  
Environmental Specialist  
Division of Mineral Resources Management

## Enclosures

cc: File  
Brent Heavilin  
Linda Slater  
Mike Dillman  
Jason Craven

ohiodnr.com





September 30, 2008

Mr. Lanny Erdos, Deputy Chief  
ODNR - Division of Mineral Resources Management  
2045 Morse Road, Building H-3  
Columbus OH 43229-6693

Dear Mr. Erdos:

In January, 2007, we submitted an adjacent area application (D-0360-18). The application was to extend two longwall panels. Since that time, we have mined past the area and no longer need this application to be issued. We respectfully withdraw this application. If you have any questions, please contact me.

Sincerely,  
THE OHIO VALLEY COAL COMPANY

David L. Bartsch, P.E.  
Environmental Coordinator and  
Permit Administrator

cc: File

RECEIVED

OCT 1 0 2008

DIVISION OF MINERAL RESOURCES MANAGEMENT

COLUMBUS, OH

RECEIVED

OCT 02 2008

56854 PLEASANT RIDGE ROAD • ALLEDONIA OHIO 43902  
(740) 926-1351 • FAX (740) 926-1615

DIVISION OF MINERAL  
RESOURCES MANAGEMENT

TOVCC 13081



September 30, 2008

Mr. Lanny Erdos, Deputy Chief  
ODNR - Division of Mineral Resources Management  
2045 Morse Road, Building H-3  
Columbus OH 43229-6693

Dear Mr. Erdos:

In January, 2007, we submitted an adjacent area application (D-0360-18). The application was to extend two longwall panels. Since that time, we have mined past the area and no longer need this application to be issued. We respectfully withdraw this application. If you have any questions, please contact me.

Sincerely,  
THE OHIO VALLEY COAL COMPANY

David L. Bartsch, P.E.  
Environmental Coordinator and  
Permit Administrator

cc: File

56854 PLEASANT RIDGE ROAD • ALLEDONIA OHIO 43902  
(740) 926-1351 • FAX (740) 926-1615

TOVCC 13082

OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINERAL RESOURCES MANAGEMENT

**\*\*POLICY/PROCEDURE DIRECTIVE\*\***

TECHNICAL 03-1  
(This P/PD Replaces TECHNICAL 93-1)

Subject: Replacement of Water Supplies Affected by Coal Mining Operations

Effective: July 1, 2004

Purpose: To establish guidelines for 1) replacing water supplies that have been contaminated, diminished or interrupted by coal mining operations, 2) providing, or reimbursing the reasonable costs of, interim water supplies and operation and maintenance costs, and 3) clarifying the roles and responsibilities of the Division, the permittee and the water supply owner.

**Regulatory requirements and order by the chief:**

OAC 1501:13-9-04 (P) states, in part, that:

- (1) Any person who conducts coal-mining operations shall:
  - (a) Replace the water supply of an owner of interest in real property who obtains all or part of his or her supply of water for domestic, agricultural, industrial, or other legitimate use from an underground or surface source, where the water supply has been affected by contamination, diminution, or interruption proximately resulting from the coal mining operations; and
  - (b) Reimburse the owner for the reasonable cost of obtaining a water supply from the time of the contamination, diminution or interruption by the operation until the water supply is replaced.

When the chief determines that a water supply has been contaminated, diminished or interrupted by a coal mining operation, the chief may provide a subsidence damage notice or order the permittee to replace the affected water supply. In enforcing such orders, the Division's policy will be to assure water replacement comparable in terms of quality, quantity and

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duration to the supply developed for the premining use. No final bond release on disturbed lands within the permit area may occur until satisfactory water supply replacement has been achieved, interim water supply costs, operation and maintenance costs, and self-initiated permanent replacement costs, if any, have been reimbursed, and the chief has terminated any order.

Operators are encouraged to reach private agreements with landowners to provide replacement water that complies with OAC 1501:13-9-04 (P).

#### Division notification to complainants:

Whenever the Division receives a water supply complaint and makes a finding that mining proximately caused the contamination, diminution, or interruption, the Technical Section hydrologist will include a copy of this PPD with the initial written response that is sent to the complainant.

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#### Quality of replacement water supplies:

The water quality of the replacement supply must meet or exceed the premining quality and must not restrict or limit the premining use. If premining quality data are inadequate or nonexistent, the acceptability of the replacement supply will be judged in comparison to the quality of water from the same water-bearing zone (i.e., aquifer) in the surrounding area where no impact from mining has occurred. If no such data exist, the postmining quality must meet or exceed applicable water quality standards adopted by the Ohio Environmental Protection Agency, Ohio Department of Health or other appropriate agency or entity for its intended use.

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Appropriate water treatment systems (e.g., softeners, chlorinators, filters, etc.) may be installed on a replacement supply to achieve the required quality, provided that such systems do not restrict or limit the premining use. However, wherever possible, the permittee should select and provide a replacement water supply that will minimize the type and extent of treatment necessary to achieve the required quality.

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Water supply replacement is preferred to long-term treatment of an existing water supply that has been contaminated by mining, unless 1) the landowner and permittee are agreeable to such treatment, and 2) continued use of the water supply will not result in contamination of other aquifers or surface

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This is a detailed topographic map of a mountainous region, likely in the Sierra Nevada. The map features numerous contour lines and labels for various peaks and locations. A prominent black line, possibly a road or trail, runs horizontally across the center of the map. The map is divided into sections by vertical lines, and the overall terrain is rugged and mountainous.

Key features and labels include:

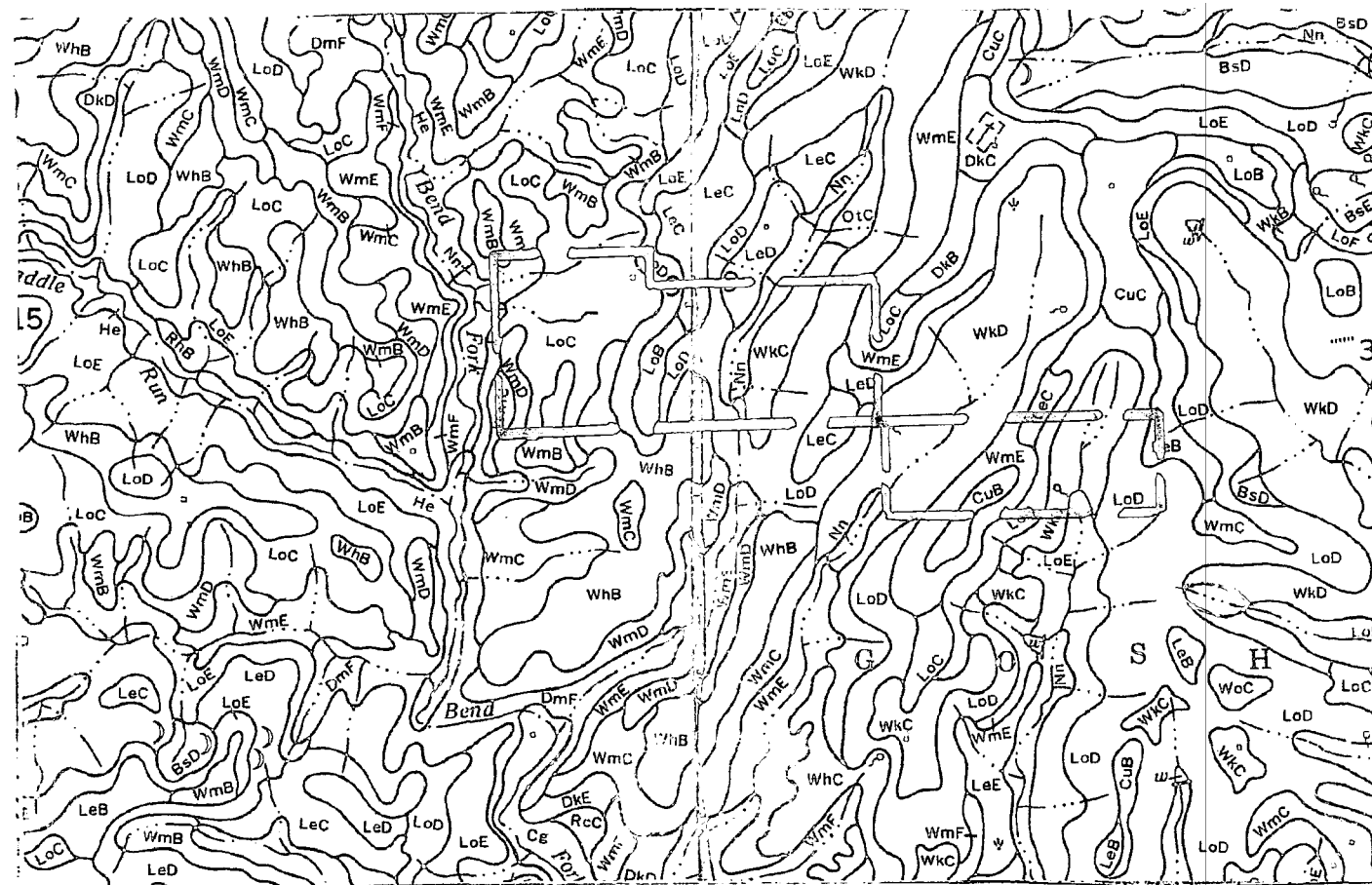
- Peaks and Locations:** Middle 5, Bend, DkD, WmB, WmC, WmE, WmD, WmF, WmG, WmH, WmI, WmJ, WmK, WmL, WmM, WmN, WmO, WmP, WmQ, WmR, WmS, WmT, WmU, WmV, WmW, WmX, WmY, WmZ, WmAA, WmAB, WmAC, WmAD, WmAE, WmAF, WmAG, WmAH, WmAI, WmAJ, WmAK, WmAL, WmAM, WmAN, WmAO, WmAP, WmAQ, WmAR, WmAS, WmAT, WmAU, WmAV, WmAW, WmAX, WmAY, WmAZ, WmBA, WmBB, WmBC, WmBD, WmBE, WmBF, WmBG, WmBH, WmBI, WmBJ, WmBK, WmBL, WmBM, WmBN, WmBO, WmBP, WmBQ, WmBR, WmBS, WmBT, WmBU, WmBV, WmBW, WmBX, WmBY, WmBZ, WmCA, WmCB, WmCC, WmCD, WmCE, WmCF, WmCG, WmCH, WmCI, WmCJ, WmCK, WmCL, WmCM, WmCN, WmCO, WmCP, WmCQ, WmCR, WmCS, WmCT, WmCU, WmCV, WmCW, WmCX, WmCY, WmCZ, WmDA, WmDB, WmDC, WmDD, WmDE, WmDF, WmDG, WmDH, WmDI, WmDJ, WmDK, WmDL, WmDM, WmDN, WmDO, WmDP, WmDQ, WmDR, WmDS, WmDT, WmDU, WmDV, WmDW, WmDX, WmDY, WmDZ, WmEA, WmEB, WmEC, WmED, WmEE, WmEF, WmEG, WmEH, WmEI, WmEJ, WmEK, WmEL, WmEM, WmEN, WmEO, WmEP, WmEQ, WmER, WmES, WmET, WmEU, WmEV, WmEW, WmEX, WmEY, WmEZ, WmFA, WmFB, WmFC, WmFD, WmFE, WmFF, WmFG, WmFH, WmFI, WmFJ, WmFK, WmFL, WmFM, WmFN, WmFO, WmFP, WmFQ, WmFR, WmFS, WmFT, WmFU, WmFV, WmFW, WmFX, WmFY, WmFZ, WmGA, WmGB, WmGC, WmGD, WmGE, WmGF, WmGG, WmGH, WmGI, WmGJ, WmGK, WmGL, WmGM, WmGN, WmGO, WmGP, WmGQ, WmGR, WmGS, WmGT, WmGU, WmGV, WmGW, WmGX, WmGY, WmGZ, WmHA, WmHB, WmHC, WmHD, WmHE, WmHF, WmHG, WmHH, WmHI, WmHJ, WmHK, WmHL, WmHM, WmHN, WmHO, WmHP, WmHQ, WmHR, WmHS, WmHT, WmHU, WmHV, WmHW, WmHX, WmHY, WmHZ, WmIA, WmIB, WmIC, WmID, WmIE, WmIF, WmIG, WmIH, WmII, WmIJ, WmIK, WmIL, WmIM, WmIN, WmIO, WmIP, WmIQ, WmIR, WmIS, WmIT, WmIU, WmIV, WmIW, WmIX, WmIY, WmIZ, WmJA, WmJB, WmJC, WmJD, WmJE, WmJF, WmJG, WmJH, WmJI, WmJJ, WmJK, WmJL, WmJM, WmJN, WmJO, WmJP, WmJQ, WmJR, WmJS, WmJT, WmJU, WmJV, WmJW, WmJX, WmJY, WmJZ, WmKA, WmKB, WmKC, WmKD, WmKE, WmKF, WmKG, WmKH, WmKI, WmKJ, WmKL, WmKM, WmKN, WmKO, WmKP, WmKQ, WmKR, WmKS, WmKT, WmKU, WmKV, WmKW, WmKX, WmKY, WmKZ, WmLA, WmLB, WmLC, WmLD, WmLE, WmLF, WmLG, WmLH, WmLI, WmLJ, WmLK, WmLL, WmLM, WmLN, WmLO, WmLP, WmLQ, WmLR, WmLS, WmLT, WmLU, WmLV, WmLW, WmLX, WmLY, WmLZ, WmMA, WmMB, WmMC, WmMD, WmME, WmMF, WmMG, WmMH, WmMI, WmMJ, WmMK, WmML, WmMM, WmMN, WmMO, WmMP, WmMQ, WmMR, WmMS, WmMT, WmMU, WmMV, WmMW, WmMX, WmMY, WmMZ, WmNA, WmNB, WmNC, WmND, WmNE, WmNF, WmNG, WmNH, WmNI, WmNJ, WmNK, WmNL, WmNM, WmNN, WmNO, WmNP, WmNQ, WmNR, WmNS, WmNT, WmNU, WmNV, WmNW, WmNX, WmNY, WmNZ, WmOA, WmOB, WmOC, WmOD, WmOE, WmOF, WmOG, WmOH, WmOI, WmOJ, WmOK, WmOL, WmOM, WmON, WmOO, WmOP, WmOQ, WmOR, WmOS, WmOT, WmOU, WmOV, WmOW, WmOX, WmOY, WmOZ, WmPA, WmPB, WmPC, WmPD, WmPE, WmPF, WmPG, WmPH, WmPI, WmPJ, WmPK, WmPL, WmPM, WmPN, WmPO, WmPP, WmPQ, WmPR, WmPS, WmPT, WmPU, WmPV, WmPW, WmPX, WmPY, WmPZ, WmQA, WmQB, WmQC, WmQD, WmQE, WmQF, WmQG, WmQH, WmQI, WmQJ, WmQK, WmQL, WmQM, WmQN, WmQO, WmQP, WmQQ, WmQR, WmQS, WmQT, WmQU, WmQV, WmQW, WmQX, WmQY, WmQZ, WmRA, WmRB, WmRC, WmRD, WmRE, WmRF, WmRG, WmRH, WmRI, WmRJ, WmRK, WmRL, WmRM, WmRN, WmRO, WmRP, WmRQ, WmRR, WmRS, WmRT, WmRU, WmRV, WmRW, WmRX, WmRY, WmRZ, WmSA, WmSB, WmSC, WmSD, WmSE, WmSF, WmSG, WmSH, WmSI, WmSJ, WmSK, WmSL, WmSM, WmSN, WmSO, WmSP, WmSQ, WmSR, WmSS, WmST, WmSU, WmSV, WmSW, WmSX, WmSY, WmSZ, WmTA, WmTB, WmTC, WmTD, WmTE, WmTF, WmTG, WmTH, WmTI, WmTJ, WmTK, WmTL, WmTM, WmTN, WmTO, WmTP, WmTQ, WmTR, WmTS, WmTT, WmTU, WmTV, WmTW, WmTX, WmTY, WmTZ, WmUA, WmUB, WmUC, WmUD, WmUE, WmUF, WmUG, WmUH, WmUI, WmUJ, WmUK, WmUL, WmUM, WmUN, WmUO, WmUP, WmUQ, WmUR, WmUS, WmUT, WmUU, WmUV, WmUW, WmUX, WmUY, WmUZ, WmVA, WmVB, WmVC, WmVD, WmVE, WmVF, WmVG, WmVH, WmVI, WmVJ, WmVK, WmVL, WmVM, WmVN, WmVO, WmVP, WmVQ, WmVR, WmVS, WmVT, WmVU, WmVV, WmVW, WmVX, WmVY, WmVZ, WmWA, WmWB, WmWC, WmWD, WmWE, WmWF, WmWG, WmWH, WmWI, WmWJ, WmWK, WmWL, WmWM, WmWN, WmWO, WmWP, WmWQ, WmWR, WmWS, WmWT, WmWU, WmWV, WmWW, WmWX, WmWY, WmWZ, WmXA, WmXB, WmXC, WmXD, WmXE, WmXF, WmXG, WmXH, WmXI, WmXJ, WmXK, WmXL, WmXM, WmXN, WmXO, WmXP, WmXQ, WmXR, WmXS, WmXT, WmXU, WmXV, WmXW, WmXX, WmXY, WmXZ, WmYA, WmYB, WmYC, WmYD, WmYE, WmYF, WmYG, WmYH, WmYI, WmYJ, WmYK, WmYL, WmYM, WmYN, WmYO, WmYP, WmYQ, WmYR, WmYS, WmYT, WmYU, WmYV, WmYW, WmYX, WmYY, WmYZ, WmZA, WmZB, WmZC, WmZD, WmZE, WmZF, WmZG, WmZH, WmZI, WmZJ, WmZK, WmZL, WmZM, WmZN, WmZO, WmZP, WmZQ, WmZR, WmZS, WmZT, WmZU, WmZV, WmZW, WmZX, WmZY, WmZZ.
- Other Labels:** DkD, WmB, WmC, WmE, WmD, WmF, WmG, WmH, WmI, WmJ, WmK, WmL, WmM, WmN, WmO, WmP, WmQ, WmR, WmS, WmT, WmU, WmV, WmW, WmX, WmY, WmZ, WmAA, WmAB, WmAC, WmAD, WmAE, WmAF, WmAG, WmAH, WmAI, WmAJ, WmAK, WmAL, WmAM, WmAN, WmAO, WmAP, WmAQ, WmAR, WmAS, WmAT, WmAU, WmAV, WmAW, WmAX, WmAY, WmAZ, WmBA, WmBB, WmBC, WmBD, WmBE, WmBF, WmBG, WmBH, WmBI, WmBJ, WmBK, WmBL, WmBM, WmBN, WmBO, WmBP, WmBQ, WmBR, WmBS, WmBT, WmBU, WmBV, WmBW, WmBX, WmBY, WmBZ, WmCA, WmCB, WmCC, WmCD, WmCE, WmCF, WmCG, WmCH, WmCI, WmCJ, WmCK, WmCL, WmCM, WmCN, WmCO, WmCP, WmCQ, WmCR, WmCS, WmCT, WmCU, WmCV, WmCW, WmCX, WmCY, WmCZ, WmDA, WmDB, WmDC, WmDD, WmDE, WmDF, WmDG, WmDH, WmDI, WmDJ, WmDK, WmDL, WmDM, WmDN, WmDO, WmDP, WmDQ, WmDR, WmDS, WmDT, WmDU, WmDV, WmDW, WmDX, WmDY, WmDZ, WmEA, WmEB, WmEC, WmED, WmEE, WmEF, WmEG, WmEH, WmEI, WmEJ, WmEK, WmEL, WmEM, WmEN, WmEO, WmEP, WmEQ, WmER, WmES, WmET, WmEU, WmEV, WmEW, WmEX, WmEY, WmEZ, WmFA, WmFB, WmFC, WmFD, WmFE, WmFF, WmFG, WmFH, WmFI, WmFJ, WmFK, WmFL, WmFM, WmFN, WmFO, WmFP, WmFQ, WmFR, WmFS, WmFT, WmFU, WmFV, WmFW, WmFX, WmFY, WmFZ, WmGA, WmGB, WmGC, WmGD, WmGE, WmGF, WmGG, WmGH, WmGI, WmGJ, WmGK, WmGL, WmGM, WmGN, WmGO, WmGP, WmGQ, WmGR, WmGS, WmGT, WmGU, WmGV, WmGW, WmGX, WmGY, WmGZ, WmHA, WmHB, WmHC, WmHD, WmHE, WmHF, WmHG, WmHH, WmHI, WmHJ, WmHK, WmHL, WmHM, WmHN, WmHO, WmHP, WmHQ, WmHR, WmHS, WmHT, WmHU, WmHV, WmHW, WmHX, WmHY, WmHZ, WmIA, WmIB, WmIC, WmID, WmIE, WmIF, WmIG,

Application Area

The Ohio Valley Coal Company  
Powhatan No. 6 Mine  
Permit D-0360  
Scale: 1" = 1/4 mile



TOVCC 113088



LoE, - Slip-prone soils  
Application Area

The Ohio Valley Coal Company  
Powhatan No. 6 Mine  
Permit D-0360  
Scale: 1" = 1/4 mile

341 High St., Box 471  
Flushing, OH 43977  
Ph: (740) 968-4947  
Fax: (740) 968-4225  
e-mail: hamilton@1st.net  
www.hamiltonandassoc.com



Civil Engineering  
Land Surveying  
Mine Permitting  
GIS Data Services  
Land Development  
Global Positioning Systems

## LETTER OF TRANSMITTAL

TO: Mr. Scott Stiteler  
ODNR, Div. of Mineral Resources Mngt.  
2050 East Wheeling Ave.  
Cambridge, Ohio 43725

DATE: Nov. 1, 2007  
COMM.# 469-66  
RE: The Ohio Valley Coal Company  
Application D-0360-18

WE ARE SENDING: ☒ Attached ☐ Under Separate Cover

BY THE FOLLOWING METHOD: FedEx

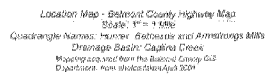
DATE	NO.	DESCRIPTION
	1	Permit D-0360-18 Application

THESE ARE TRANSMITTED: ☒ For Your Use ☐ As Requested ☒ For Review/Comment ☐ Returned

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

COPY TO File  
The Ohio Valley Coal Co.  
\_\_\_\_\_

SIGNED Suzie Utter  
Suzie Utter

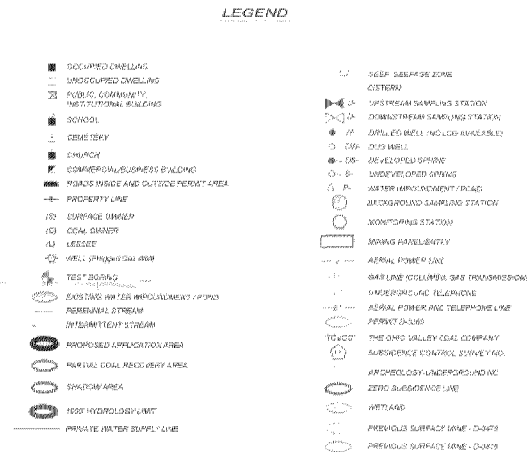
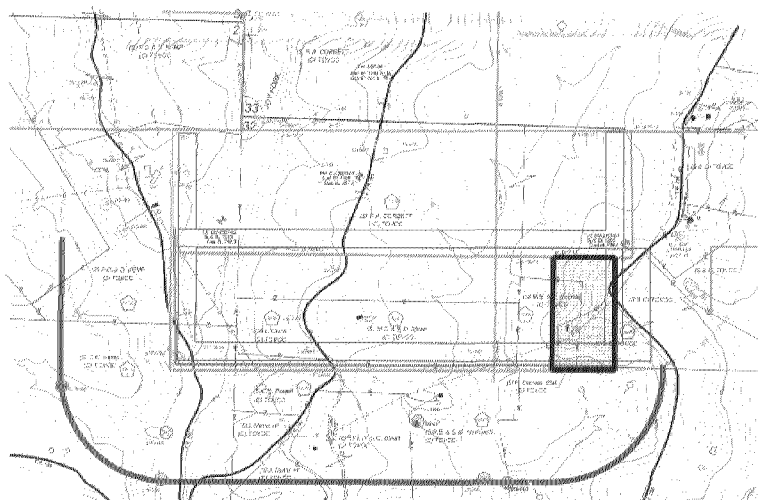


**PROBLEMS:**

1. Surface area and volume of a sphere are known to be proportional to the square of the radius. If the surface area of a sphere is  $48\pi$  cm<sup>2</sup>, find its volume.
2. The surface area of a sphere is  $60\pi$  cm<sup>2</sup>. Find its radius.
3. The surface area of a sphere is  $154\pi$  cm<sup>2</sup>. Find its volume.
4. A sphere of radius 3 cm is melted and recast into smaller spheres of radius 2 cm. Find the number of smaller spheres that can be made.

### SUMMARY OF ACREAGES

13.1	FULL COAL RECOVERY ACREAGE
0	PARTIAL COAL RECOVERY ACREAGE
13.1	TOTAL COAL ACREAGE (SHADOW AREA)
13.1	TOTAL APPLICATION ACREAGE



I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS MAP IS  
CORRECT, AND SHOWS THE TRUE AND KNOWN LOCATION  
AND BELIEF ALL THE PARTIES TO THE TREATY CHAPTER

ACKNOWLEDGED BEFORE ME A NOTARY PUBLIC THIS 1<sup>st</sup>  
DAY OF August, 2008.

Diana R. Buck  
PROPERTY MANAGER

STATE OF OHIO  
NOTARY PUBLIC  
GEORGE E. JACKSON  
My Commission Expires 09-18-2009

**The Ohio Valley Coal Company**

SECTIONS 32		Y-6	M-1	TWP-28N
COUNTY: Benton		CONTAINING INTEREST: 70		
SCALE: 1" = 800'				
DATE PREPARED: August 1, 2008				

